

**XII- Computer Science New (083)**

**Worksheet 2- Python**

1(17-18)	Differentiate between break and continue statement with the help of an example.
Ans	<p>break statement is used to terminate the execution of the loop.</p> <p>For example:</p> <pre>for i in range(6):     if i==3:         break     print i</pre> <p>The output of the above code will be: 0 1 2</p> <p>The loop terminates when i becomes 3 due to break statement</p> <p>Whereas, continue statement is used to force the next iteration while skipping the statements in the present iteration.</p> <pre>for i in range(6):     if i==3:         continue     print i</pre> <p>The output of the above code will be: 0 1 2 4 5</p> <p>continue statement forces next iteration when i becomes 3 , bypassing the print statement .Thus ,in the output 3 is missing.</p>
2	Identify and write the name of the module to which the following functions belong: i. ceil() ii. findall()
Ans	i. ceil( ) - math module ii. findall( ) – re module
3	Observe the following Python code very carefully and rewrite it after removing all syntactical errors with each correction underlined.

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	<pre>DEF execmain():     x= input("Enter a number:")     if(abs(x)= x):         print "You entered a positive number:"     else:         x*=-1         print "Number made positive:"x  execmain()</pre>
Ans	<pre><b>def</b> execmain():      x= input("Enter a number:")      if(abs(x)<b>==</b> x):          print "You entered a positive number:"      else:          x <b>*=</b> -1          print "Number made positive:"<b>x</b>  execmain()</pre>
4	<p>Write the output of the following Python code:</p> <pre>i=5 j=7 x=0 i=i+(j-i) x=j+i print x,":",i j=j**2 x=j+i i=i+1 print i,":",j</pre>
Ans	<pre>14 : 7 8 : 49</pre>
5	<p>Write the output of the following Python program code:</p>

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	<pre>Data =['D','o',' ','I','t',' ','@',' ','1','2','3',' ','!']  for i in range(len(Data)-1):      if (Data[i].isupper()):         Data[i]=Data[i].lower()     elif (Data[i].isspace()):         Data[i]=Data[i+1] print Data</pre>														
Ans	[ 'd', 'o', 'I', 'i', 't', '@', '@', '1', '1', '2', '3', '!', '!']														
6	<p>Study the following program and select the possible output(s) from the options (i) to (iv) 2</p> <p>Page No. 20</p> <p>following it. Also, write the maximum and the minimum values that can be assigned to the variable Y.</p> <pre>import random X= random.random() Y= random.randint(0,4) print int(X), ":", Y+int(X)</pre> <p>i) 0 : 0 ii) 1 : 6 iii) 2 : 4 iv) 0 : 3</p>														
Ans	<p>i) and iv) are the possible output(s)</p> <p>Minimum value that can be assigned to Y = 0</p> <p>Maximum value assigned to Y = 3</p>														
7	<p>Write the definition of a function Reverse(X) in Python, to display the elements in reverse order such that each displayed element is the twice of the original element (element * 2) of the List X in the following manner:</p> <p>Example:</p> <p>If List X contains 7 integers is as follows:</p> <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th>X[0]</th><th>X[1]</th><th>X[2]</th><th>X[3]</th><th>X[4]</th><th>X[5]</th><th>X[6]</th></tr></thead><tbody><tr><td>4</td><td>8</td><td>7</td><td>5</td><td>6</td><td>2</td><td>10</td></tr></tbody></table> <p>After executing the function, the array content should be displayed as follows:</p> <p style="text-align: center;">20      4      12      10      14      16      8</p>	X[0]	X[1]	X[2]	X[3]	X[4]	X[5]	X[6]	4	8	7	5	6	2	10
X[0]	X[1]	X[2]	X[3]	X[4]	X[5]	X[6]									
4	8	7	5	6	2	10									
Ans	<pre>def Reverse(X):     for i in range(len(X)-1,-1,-1):         print X[i]*2</pre>														
8	<p>Consider the following unsorted list :</p> <p>[22, 54, 12, 90, 55, 78]</p> <p>Write the passes of selection sort for sorting the list in ascending order till the 3rd</p>														

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	iteration.																																											
Ans	Pass 1: [12, 54, 22, 90, 55, 78] Pass 2 : [12, 22, 54, 90, 55, 78] Pass 3 : [12, 22, 54, 90, 55, 78]																																											
9	Evaluate the following postfix expression using a stack. Show the contents of stack after execution of each operation: 10,40,25,-,*,15,4,*,+																																											
Ans	<table border="1"> <thead> <tr> <th>Symbol</th> <th>Operation</th> <th>Stack</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>Push(10)</td> <td>10</td> <td></td> </tr> <tr> <td>40</td> <td>Push(40)</td> <td>10,40</td> <td></td> </tr> <tr> <td>25</td> <td>Push(25)</td> <td>10,40,25</td> <td></td> </tr> <tr> <td>-</td> <td>Pop(25) Pop(40) Push(40-25) =15</td> <td>10,15</td> <td></td> </tr> <tr> <td>*</td> <td>Pop(15) Pop(10) Push(10*15) =150</td> <td>150</td> <td></td> </tr> <tr> <td>15</td> <td>Push(15)</td> <td>150,15</td> <td></td> </tr> <tr> <td>4</td> <td>Push(4)</td> <td>150,15,4</td> <td></td> </tr> <tr> <td>*</td> <td>Pop(4) Pop(15) Push(15*4)=60</td> <td>150,60</td> <td></td> </tr> <tr> <td>+</td> <td>Pop(60) Pop(150) Push(150+60)=210</td> <td>210</td> <td>210</td> </tr> </tbody> </table>				Symbol	Operation	Stack	Result	10	Push(10)	10		40	Push(40)	10,40		25	Push(25)	10,40,25		-	Pop(25) Pop(40) Push(40-25) =15	10,15		*	Pop(15) Pop(10) Push(10*15) =150	150		15	Push(15)	150,15		4	Push(4)	150,15,4		*	Pop(4) Pop(15) Push(15*4)=60	150,60		+	Pop(60) Pop(150) Push(150+60)=210	210	210
Symbol	Operation	Stack	Result																																									
10	Push(10)	10																																										
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+	Pop(60) Pop(150) Push(150+60)=210	210	210																																									
10	Nancy intends to position the file pointer to the beginning of a text file. Write Python statement for the same assuming F is the Fileobject.																																											
Ans	F.seek(0)																																											
11	Write a function <b>countmy()</b> in Python to read the text file "DATA.TXT" and count the number of times "my" occurs in the file. For example if the file "DATA.TXT" contains: "This is my website. I have displayed my preferences in the CHOICE section." The <b>countmy()</b> function should display the output as: "my occurs 2 times".																																											

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Ans	<pre>def countmy():     f= open("DATA.TXT","r")     count =0     x=f.read()     word= x.split()     for i in word:         if (i=="my"):             count=count+1     print "my occurs",count,"times"</pre>
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12	Evaluate the following POSTFIX expression. Show the status of Stack after execution of each operation separately: TRUE, FALSE, OR, NOT, TRUE, FALSE, AND, OR
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Ans	S. No.	Element Scanned	Operation	Stack Status
	1	True	Push (True)	True
	2	False	Push (False)	True, False
	3	OR	Pop(False) Pop(True) OR(True, False)=True Push (True)	True
	4	NOT	Pop(True) NOT(True)=False	False
	5	True	Push (True)	False, True
	6	False	Push (False)	False, True, False
	7	AND	Pop(False) Pop(True) AND(False, True)=False Push False	False, False
	8	OR	Pop(False) Pop(False) OR(False, False)=False	False

The result is False

13(18)	Differentiate between Syntax Error and Run-Time Error? Also, write a suitable example in Python to illustrate both.
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Ans	<p><b>Syntax error:</b> An error of language resulting from code that does not conform to the syntax of the programming language.</p> <p>Example</p> <pre>a = 0 while a &lt; 10 # : is missing as per syntax     a = a + 1     print a</pre> <p><b>Runtime error:</b> A runtime error is an error that causes abnormal termination of program during running time..</p> <p>Example</p> <pre>A=10 B=int(raw_input("Value:")) print A/B # If B entered by user is 0, it will be run-time error</pre>
14	<p>Name the Python Library modules which need to be imported to invoke the following functions:</p> <hr/> <p>(i) <code>sin()</code>      (ii) <code>search()</code></p>
Ans	<p>(i) <code>math</code>      (ii) <code>re</code></p>
15	<p>Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code.</p> <pre>Val = int(rawinput("Value:")) Adder = 0  for C in range(1,Val,3)     Adder+=C     if C%2=0:         Print C*10     Else:         print C* print Adder</pre>
Ans	<pre>Val = int(raw_input("Value:")) # Error 1 Adder = 0  for C in range(1,Val,3) <u>:</u> # Error 2     Adder+=C     <u>if C%2==0:</u> # Error 3         print C*10 # Error 4     <u>else:</u> # Error 5         <u>print C</u> # Error 6 print Adder</pre>

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16	<p>Find and write the output of the following python code:</p> <pre style="margin: 0;"> Data = ["P",20,"R",10,"S",30] Times = 0 Alpha = "" Add = 0 for C in range(1,6,2):     Times= Times + C     Alpha= Alpha + Data[C-1]+"\$"     Add = Add + Data[C] print Times,Add,Alpha                     </pre>				
Ans	<pre style="margin: 0;"> 1 20 P\$ 4 30 P\$R\$ 9 60 P\$R\$\$S\$                     </pre>				
17	<p>What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables BEGIN and LAST.</p> <pre style="margin: 0;"> import random POINTS=[20,40,10,30,15]; POINTS=[30,50,20,40,45];  BEGIN=random.randint(1,3) LAST=random.randint(2,4) for C in range(BEGIN, LAST+1):     print POINTS[C], "#",                     </pre> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="padding: 2px;">(i) 20#50#30#</td> <td style="padding: 2px;">(ii) 20#40#45#</td> </tr> <tr> <td style="padding: 2px;">(iii) 50#20#40#</td> <td style="padding: 2px;">(iv) 30#50#20#</td> </tr> </table>	(i) 20#50#30#	(ii) 20#40#45#	(iii) 50#20#40#	(iv) 30#50#20#
(i) 20#50#30#	(ii) 20#40#45#				
(iii) 50#20#40#	(iv) 30#50#20#				
Ans	<p>(ii) 20#40#45# and (iii) 50#20#40#</p> <p>Max value for BEGIN 3 Max value for LAST 4</p>				
18	<p>Consider the following randomly ordered numbers stored in a list 786, 234, 526, 132, 345, 467,</p> <p>Show the content of list after the First, Second and Third pass of the bubble sort method used for arranging in ascending order?</p> <p>Note: Show the status of all the elements after each pass very clearly underlining the changes.</p>				
Ans	<pre style="margin: 0;"> I Pass  234, 526, 132, 345, 467, 786 II Pass 234, <u>132</u>, <u>345</u>, <u>467</u>, <u>526</u>, 786 III Pass <u>132</u>, <u>234</u>, <u>345</u>, 467, 526, 786                     </pre>				

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19	<p>Write definition of a method <b>ZeroEnding(SCORES)</b> to add all those values in the list of SCORES, which are ending with zero (0) and display the sum. For example, If the SCORES contain [200,456,300,100,234,678]</p> <p>The sum should be displayed as 600</p>
Ans	<pre>def ZeroEnding(SCORES):     s=0     for i in SCORES:         if i%10==0:             s=s+i     print s</pre>
20	<p>Write <b>AddClient(Client)</b> and <b>DeleteClient(Client)</b> methods in python to add a new Client and delete a Client from a List of Client Names, considering them to act as insert and delete operations of the queue data structure.</p>
Ans	<pre>def AddClient(Client):     C=raw_input("Client name: ")     Client.append(C)  def DeleteClient(Client):     if (Client==[]):         print "Queue empty"     else:         print Client[0],"Deleted"         del Client[0]          # OR Client.pop(0)  OR class queue:     Client=[]     def AddClient(self):         a=raw_input("Client name: ")         queue.Client.append(a)     def DeleteClient(self):         if (queue.Client==[]):             print "Queue empty"         else:             print queue.Client[0],"Deleted"             del queue.Client[0]</pre>
21	<p>Write definition of a Method <b>COUNTNOW(PLACES)</b> to find and display those place names, in which there are more than 5 characters. For example:</p> <hr/> <p>If the list PLACES contains ["DELHI", "LONDON", "PARIS", "NEW YORK", "DUBAI"] The following should get displayed LONDON NEW YORK</p>
Ans	<pre>def COUNTNOW(PLACES):</pre>



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	<pre>for P in PLACES:     if len(P)&gt;5:         print P</pre>																				
22	Evaluate the following Postfix notation of expression: <hr/> <code>22,11,/ ,5,10,* ,+,12,-</code>																				
Ans	<table border="1"><thead><tr><th>Element</th><th>Stack Contents</th></tr></thead><tbody><tr><td>22</td><td>22</td></tr><tr><td>11</td><td>22, 11</td></tr><tr><td>/</td><td>2</td></tr><tr><td>5</td><td>2, 5</td></tr><tr><td>10</td><td>2, 5, 10</td></tr><tr><td>*</td><td>2, 50</td></tr><tr><td>+</td><td>52</td></tr><tr><td>12</td><td>52, 12</td></tr><tr><td>-</td><td>40</td></tr></tbody></table>	Element	Stack Contents	22	22	11	22, 11	/	2	5	2, 5	10	2, 5, 10	*	2, 50	+	52	12	52, 12	-	40
Element	Stack Contents																				
22	22																				
11	22, 11																				
/	2																				
5	2, 5																				
10	2, 5, 10																				
*	2, 50																				
+	52																				
12	52, 12																				
-	40																				
23	Write a statement in Python to open a text file STORY.TXT so that new contents can be added at the end of it.																				
Ans	<code>file= open("STORY.TXT","a")</code> <b>OR</b> <code>file.open("STORY.TXT","a")</code>																				
24	Write a method in python to read lines from a text file INDIA.TXT, to find and display the occurrence of the word "India". For example: If the content of the file is <hr/> <i>"India is the fastest growing economy. India is looking for more investments around the globe. The whole world is looking at India as a great market. Most of the Indians can foresee the heights that India is capable of reaching."</i> <hr/> The output should be 4																				

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Ans	<pre>def display1():     c=0     file=open('INDIA.TXT','r')     c=0     for LINE in file:         Words = LINE.split()         for W in Words:             if W=="India":                 c=c+1     print c     file.close() OR def display():     c=0     file=open('INDIA.TXT','r')      lines = file.read() # lines = file.readline()     while lines:         words = lines.split()         for w in words:             if w=="India":                 c=c+1         lines = file.read() # lines = file.readline()     print c     file.close()</pre>
25	Write a method in python to search and display all the content in the file CINEMA.DAT where MTYPE is matching with 'Comedy'.
	<pre>def Search():     file=open('CINEMA.DAT','rb')     try:         while True:             M=pickle.load(file)             if M.MTYPE=="Comedy":                 M.Show()     except EOFError:         pass</pre>
26(18 )	Differentiate between Run-Time Error and Logical Error ? Also, write a suitable example in Python to illustrate both.
27	Name the Python Library modules which need to be imported to invoke the following functions (i) log() (ii) match()
28	Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code. Num = int(rawinput("Number:")) Sum = 0

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	<pre>for i in range(10,Num,3) Sum+=i if i%2=0: print i*2 Else: print i*3 print Sum</pre>
29	<p>Find and write the output of the following python code :</p> <pre>Val = [20,"A",40,"K",10,"H"] Freq = 0 Sum = 0 Cat = "" For I in range(1,6,2): Freq = Freq + I Sum = Sum + Val[I-1] Cat = Cat + Val[I] + "*" print Freq,Sum,Cat</pre>
30	<p>What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code ? Also specify the maximum values that can be assigned to each of the variables START and END.</p> <pre>import random SCORE=[20,40,10,30,15]; START=random.randint(1,3) END=random.randint(2,4) for I in range(START,END+1): print SCORE[I],"&amp;",</pre> <p>(i) 10&amp;40&amp;20&amp; (ii) 10&amp;30&amp;15&amp; (iii) 40&amp;10&amp;30&amp; (iv) 20&amp;40&amp;10&amp;</p>
31	<p>Consider the following randomly ordered numbers stored in a list 806, 304, 506, 102, 405, 607</p> <p>Show the content of list after the First, Second and Third pass of the bubble sort method used for arranging in ascending order ?</p> <p>Note: Show the status of all the elements after each pass very clearly underlining the changes.</p>
32	<p>Write definition of a method Endingwith5(SCORES) to add all those values in the list of SCORES, which are ending with 5 and display the sum.</p> <p>For example, If the SCORES contain [205,506,365,100,230,335] The sum should be displayed as 905</p>

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33	Write AddCustomer(Customer) and DeleteCustomer(Customer) methods in Python to add a new Customer and delete a Customer from a List of Customer Names, considering them to act as insert and delete operations of the queue data structure.
34	Write definition of a Method COUNTNOW(REGIONS) to find and display names of those REGIONS, in which there are less than or equal to 5 characters. For example : If the list REGIONS contains ["GOA","NEW DELHI","DAMAN","CHENNAI","BANGALORE"] The following should get displayed GOA DAMAN
35	Evaluate the following Postfix notation of expression : 12,3,/,9,2,*,+,11,-
36	Write a statement in Python to open a text file NOTES.TXT so that new contents can be written in it.
37	Write a method in python to read lines from a text file INDIA.TXT, to find and display the occurrence of the word “INDIA” or “India”. For example: If the content of the file is <hr/> INDIA is a famous country all over the world. Geographically, India is located to the south of Asia continent. India is a high population country and well protected from all directions naturally. India is a famous country for its great cultural and traditional values all across the world. <hr/> The output should be 4
38	Which of the following can be used as valid variable identifier(s) in Python ? (i) <b>4thSum</b> (ii) <b>Total</b> (iii) <b>Number#</b> (iv) <b>_Data</b>
39	Name the Python Library modules which need to be imported to invoke the following functions : (i) <b>floor()</b>

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	(ii) randint()
40	<p>Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code.</p> <pre>STRING=""WELCOME NOTE"" for S in range[0,8]: print STRING(S) print S+STRING</pre>
41	<p>Find and write the output of the following Python code :</p> <pre>TXT = ["20","50","30","40"] CNT = 3 TOTAL = 0 for C in [7,5,4,6]: T = TXT[CNT] TOTAL = float (T) + C print TOTAL CNT-=1</pre>
42	<p>Find and write the output of the following Python code :</p> <pre>class INVENTORY: def __init__(self,C=101,N="Pad",Q=100): #constructor self.Code=C self.IName=N self.Qty=int(Q); def Procure(self,Q): self.Qty = self.Qty + Q def Issue(self,Q): self.Qty -= Q def Status(self): print self.Code,":",self.IName,"#",self.Qty 91 13 P.T.O. I1=INVENTORY() I2=INVENTORY(105,"Thumb Pin",50) I3=INVENTORY(102,"U Clip") I1.Procure(25) I2.Issue(15) I3.Procure(50) I1.Status() I3.Status() I2.Status()</pre>

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43	<p>What are the possible outcome(s) executed from the following code ? Also specify the maximum and minimum values that can be assigned to the variable N.</p> <pre><b>import random</b> <b>NAV = ["LEFT","FRONT","RIGHT","BACK"];</b> <b>NUM = random.randint(1,3)</b> <b>NAVG = ""</b> <b>for C in range (NUM,1,-1):</b> <b>NAVG = NAVG+NAV[I]</b> <b>print NAVG</b></pre> <p><b>(i) BACKRIGHT (ii) BACKRIGHTFRONT</b> <b>(iii) BACK (iv) LEFTFRONTRIGHT</b></p>
44	<p>What will be the status of the following list after the First, Second and Third pass of the bubble sort method used for arranging the following elements in <b>ascending order</b> ? <i>Note</i> : Show the status of all the elements after each pass very clearly underlining the changes. 52, 42, -10, 60, 90, 20</p>
45	<p>Write definition of a method <b>EvenSum(NUMBERS)</b> to add those values in the list of NUMBERS, which are odd.</p>
46	<p>Write <b>Addnew(Member)</b> and <b>Remove(Member)</b> methods in Python to Add a new Member and Remove a Member from a list of Members, considering them to act as INSERT and DELETE operations of the data structure Queue.</p>
47	<p>Write definition of a method <b>MSEARCH(STATES)</b> to display all the state names from a list of STATES, which are starting with alphabet M. For example : If the list STATES contains ["MP","UP","WB","TN","MH","MZ","DL","BH","RJ","HR"] The following should get displayed : MP MH MZ</p>
48	<p>Evaluate the following Postfix notation of expression : <b>4,2,*,22,5,6,+,-</b></p>
49	<p>Differentiate between file modes <b>r+</b> and <b>rb+</b> with respect to Python.</p>
50	<p>Write a method in Python to read lines from a text file <b>MYNOTES.TXT</b>, and display those lines, which are starting with</p>

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	the alphabet —K.
51(dh)	Which of the following can be used as valid variable identifier(s) in Python ? (i) <b>total</b> (ii) <b>7Salute</b> (iii) <b>Que\$tion</b> (iv) <b>global</b>
52	Name the Python Library modules which need to be imported to invoke the following functions : (i) <b>ceil()</b> (ii) <b>randint()</b>
53	Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code. <b>TEXT=""GREAT</b> <b>DAY""</b> <b>for T in range[0,7]:</b> <b>print TEXT(T)</b> <b>print T+TEXT</b>
54	Find and write the output of the following Python code : <b>STR = ["90","10","30","40"]</b> <b>COUNT = 3</b> <b>SUM = 0</b> <b>for I in [1,2,5,4]:</b> <b>S = STR[COUNT]</b> <b>SUM = float (S)+I</b> <b>print SUM</b> <b>COUNT-=1</b>
55	What are the possible outcome(s) executed from the following code ? Also specify the maximum and minimum values that can be assigned to variable N. <b>2</b> <b>import random</b> <b>SIDES=["EAST","WEST","NORTH","SOUTH"];</b> <b>N=random.randint(1,3)</b> <b>OUT=""</b> <b>for I in range(N,1,-1):</b> <b>OUT=OUT+SIDES[I]</b> <b>print OUT</b> (i) <b>SOUTHNORTH</b> (ii) <b>SOUTHNORTHWEST</b> (iii) <b>SOUTH</b> (iv) <b>EASTWESTNORTH</b>
56	What will be the status of the following list after the First, Second and Third pass of the bubble sort method used for arranging the following elements in <b>descending</b>

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	<p><b>order ? 3</b></p> <p>Note : Show the status of all the elements after each pass very clearly underlining the changes.</p> <p><b>152, 104, -100, 604, 190, 204</b></p>
57	Write definition of a method <b>OddSum(NUMBERS)</b> to add those values in the list of NUMBERS, which are odd.
58	Write <b>Addnew(Book)</b> and <b>Remove(Book)</b> methods in Python to Add a new Book and Remove a Book from a List of Books, considering them to act as PUSH and POP operations of the data structure Stack.
59	<p>Write definition of a Method <b>AFIND(CITIES)</b> to display all the city names from a list of CITIES, which are starting with alphabet A. <b>2</b></p> <p>For example :</p> <p>If the list CITIES contains</p> <p><b>["AHMEDABAD","CHENNAI","NEW DELHI","AMRITSAR","AGRA"]</b></p> <p>The following should get displayed</p> <p><b>AHMEDABAD</b></p> <p><b>AMRITSAR</b></p> <p><b>AGRA</b></p>
60	<p>Evaluate the following Postfix notation of expression : <b>2</b></p> <p><b>2,3,*,24,2,6,+/, -</b></p>
61	Differentiate between file modes <b>r+</b> and <b>w+</b> with respect to Python.
62	Write a method in Python to read lines from a text file <b>DIARY.TXT</b> , and display those lines, which are starting with an alphabet 'P'.
63	<p>Carefully observe the following python code and answer the questions that follow:</p> <pre>x=5 def func2():     x=3     global x     x=x+1     print x     print x</pre> <p>On execution the above code produces the following output.</p> <p>6</p> <p>3</p> <p>Explain the output with respect to the scope of the variables.</p>
Ans	Names declared with global keyword have to be referred at the file level. This is because the global statement indicates that the particular



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	<p>variable lives in the global scope. If no global statement is being used, the variable with the local scope is accessed.</p> <p>Hence, in the above code the statement succeeding the statement global x informs python to increment the global variable x</p> <p>Hence the output is 6 i.e 5+1 which is also the value for global x.</p> <p>When x is reassigned with the value 3 the local x hides the global x and hence 3 is printed.</p>
64	<p>Name the modules to which the following functions belong: a. uniform() b. fabs()</p>
Ans	<p>a. random() b. math()</p>
65	<p>Rewrite the following code after removing the syntactical errors (if any). Underline each correction.</p> <pre>def chksum:     x= input("Enter a number")     if (x%2 = 0):         for i range(2*x):             print i     loop else:         print "#"</pre>
Ans	<pre><b>def chksum():</b> x= input("Enter a number") <b>if (x%2 == 0):</b> <b>for i in range(2*x):</b> print i <b>else:</b> print "#"</pre>
66	<p>Observe the following Python code carefully and obtain the output, which will appear on the screen after execution of it.</p> <pre>def Findoutput():     L = "earn"     X=""     L1=[]     count = 1     for i in L:         if i in['a','e','i','o','u']:             X=X+i.swapcase()         else:             if (count%2!=0):                 X= X+str(len(L[:count]))             else:                 X = X+i             count = count+1     print X Findoutput()</pre>
Ans	EA3n

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67	<p>What output will be generated when the following Python code is executed?</p> <pre>def ChangeList():     L=[]     L1=[]     L2=[]     for i in range(1,10):         L.append(i)     for i in range(10,1,-2):         L1.append(i)     for i in range(len(L1)):         L2.append(L1[i]+L[i])     L2.append(len(L)-len(L1))     print L2 ChangeList()</pre>
Ans	[11, 10, 9, 8, 7, 4]
68	<p>Observe the following program and answer the questions that follow:</p> <pre>import random X=3 N = random.randint(1,X) for i in range(N):     print i,'#',i+1</pre> <p>a. What is the minimum and maximum number of times the loop will execute? b. Find out, which line of output(s) out of (i) to (iv) will not be expected from the program? I. 0#1 ii. 1#2 iii. 2#3 iv. 3#4</p>
Ans	<p>a. Minimum Number = 1 Maximum Number = 3 b. Line iv is not expected to be a part of the output.</p>
69	<p>Explain the two strategies employed by Python for memory allocation.</p>
Ans	<p>Python uses two strategies for memory allocation. Reference counting ii. Automatic garbage collection. <b>Reference Counting:</b> works by counting the number of times an object is referenced by other objects in the system. When an object's reference count reaches zero, Python collects it automatically. <b>Automatic Garbage Collection:</b> Python schedules garbage collection based upon a threshold of object allocations and object deallocations. When the number of allocations minus the number of deallocations are greater than the threshold number, the garbage</p>

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	collector is run and the unused block of memory is reclaimed.
70	Consider the following unsorted list 95 79 19 43 52 3 Write the passes of bubble sort for sorting the list in ascending order till the 3rd iteration.
Ans	[79, 19, 43, 52, 3, 95] [19, 43, 52, 3, 79, 95] [19, 43, 3, 52, 79, 95]
71	Kritika was asked to accept a list of even numbers but she did not put the relevant condition while accepting the list of numbers. You are required to write a user defined function oddtoeven(L) that accepts the List L as an argument and convert all the odd numbers into even by multiplying them by 2 .
Ans	<pre>def oddtoeven(L):     for i in range(len(L)):         if (L[i]%2!=0):             L[i] = L[i]*2</pre>
72	Aastha wants to create a program that accepts a string and <i>display the characters in the reverse order in the same line using a Stack</i> . She has created the following code , help her by completing the definitions on the basis of requirements given below : class mystack: def __init__(self): self.mystr= _____ # Accept a string self.mylist = _____ # Convert mystr to a list # Write code to display while removing element from the stack. def display(self): : : :
Ans	<pre>class mystack:     def __init__(self):         self.mystr= raw_input("Enter the string")         self.mylist = list(self.mystr)      def display(self):         x= len(self.mylist)         if (x&gt;0):             for i in range(x):                 print self.mylist.pop(),             else:                 print "Stack is empty"</pre>
73	Write a generator function generatesq() that displays the squareroots of numbers from 100 to n where n is passed as an argument .

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Ans	<pre>import math def generatesq(n):     for i in range(100,n):         yield(math.sqrt(i))</pre>
-----	--

74	Evaluate the following Postfix expression: 20,10,-,15,3,/,+,5,*
----	--

Ans					
	Symbol	Operation	Stack	Result	
	20	Push	20		
	10	Push	20,10		
	-	Pop(10) Pop(20) Push(20-10) =10	10		
	15	Push	10,15		
	3	Push	10,15,3		
	/	Pop(3) Pop(15) Push(15/3)=5	10,5		
	+	Pop(5) Pop(10) Push(10+5)=15	15		
	5	Push	15,5		
*	Pop(5) Pop(15) Push(15*5)=75	75	75		

75	<p>Observe the following code and answer the questions that follow:</p> <pre>File = open("Mydata","a") _____ #Blank1 File.close()</pre> <p>i. What type (Text/Binary) of file is Mydata? ii. Fill the Blank 1 with statement to write "ABC" in the file "Mydata"</p>
----	--

Ans	<p>i. Text File ii. File.write("ABC")</p>
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76	<p>A text file "Quotes.Txt" has the following data written in it: Living a life you can be proud of Doing your best Spending your time with people and activities that are important to you</p>
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	<p>Standing up for things that are right even when it's hard Becoming the best version of you Write a user defined function to display the total number of words present in the file.</p>
Ans	<pre>def countwords():     S= open("Mydata","r")     f = S.read()     z= f.split()     count = 0     for i in z:         count = count+1     print "Total number of words",count</pre>
77	List one similarity and one difference between List and Dictionary datatype
Ans	<p>Similarity : Both List and Dictionary are mutable datatypes. Dissimilarity: List is a sequential data type i.e. they are indexed. Dictionary is a mapping datatype. It consists of key: value pair. Eg: L =[1,2,3,4,5] is a list D= {1:"Ajay",2:"Prashant,4:"Himani"} is a dictionary where 1,2,4 are keys and "Ajay",Prashant,"Himani" are their corresponding values.</p>
78	Observe the following Python functions and write the name(s) of the module(s) to which they belong: a. uniform() b. findall()
Ans	a. random b.re
79	Rewrite the following Python program after removing all the syntactical errors (if any),underlining each correction.:
	<pre>def checkval:     x = raw_input("Enter a number")     if x % 2 = 0 :         print x,"is even"     else if x&lt;0 :         print x,"should be positive"     else ;         print x,"is odd"</pre>

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Ans	<pre>def checkval():     x = raw_input("Enter a number")      if x % 2 == 0 :         print x,"is even"     elif x&lt;0 :         print x,"should be positive"     else :         print x,"is odd"</pre>
80	<p>Find the output of the following Python program:</p> <pre>def makenew(mystr):      newstr = " "      count = 0      for i in mystr:          if count%2 !=0:              newstr = newstr+str(count)          else:              if islower(i):                  newstr = newstr+upper(i)              else:                  newstr = newstr+i          count +=1      newstr = newstr+mystr[:1]      print "The new string is :",newstr  makenew("sTUdeNT")</pre>
Ans	The new string is: S1U3E5Ts
81	Find the output of the following program

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	<pre>def calresult () :     i = 9     while i &gt; 1 :         if (i % 2 == 0):             x = i%2             i = i-1         else :             i = i-2             x = i     print x**2</pre>
Ans	<p>49 25 9 1</p>
82	<p>Observe the following Python code and find out , which out of the given options i) to iv) are the expected correct output(s).Also assign the maximum and minimum value that can be assigned to the variable ‘Go’.</p> <pre>import random X =[100,75,10,125] Go = random.randint(0,3) for i in range(Go):     print X[i],"\$\$",</pre> <p>i. 100\$\$75\$\$10 ii. 75\$\$10\$\$125\$\$iii. 75\$\$10\$\$ iv.10\$\$125\$\$100</p>
Ans	<p>100 \$\$ 75 \$\$ 10 \$\$ Minimum Value that can be assigned to Go is 0 Maximum Value that can be assigned to Go is 3</p>
83	<p>Discuss the strategies employed by python for memory allocation?</p>

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Ans	<p>Python uses two strategies for memory allocation- Reference counting and Automatic garbage collection:</p> <p><b>Reference Counting:</b> works by counting the number of times an object is referenced by other objects in the system. When an object's reference count reaches zero, Python collects it automatically.</p> <p><b>Automatic Garbage Collection:</b> Python schedules garbage collection based upon a threshold of object allocations and object de-allocations. When the number of allocations minus the number of deallocations are greater than the threshold number, the garbage collector is run and the unused block of memory is reclaimed.</p>
84	<p>Write a user defined function findname(name) where name is an argument in Python to delete phone number from a dictionary phonebook on the basis of the name ,where name is the key.</p>
Ans	<pre>def findname(name):     if phonebook.has_key():         del phonebook[name]     else:         print "Name not found"     print "Phonebook Information"     print "Name", "\t", "Phone number"     for i in phonebook.keys():         print i, "\t", phonebook[i]</pre>
85	<p>Explain try..except...else ... with the help of user defined function def divide(x, y) which raises an error when the denominator is zero while dividing x by y and displays the quotient otherwise.</p>



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Ans	<pre>def divide(x, y):     try:         result = x / y     except ZeroDivisionError:         print "division by zero!"     else:         print "result is", result</pre> <p>In the above example: try block consists of code that can raise an error. When y (denominator) gets a 0 value, ZeroDivisionError is raised which is handled by except clause. In case of no exception else statement is executed. In case there is no error the statement(s) in else clause are executed .</p>
86	<p>Write a user defined function arrangements(X), that accepts a list X of integers and sets all the negative elements to the left and all positive elements to the right of the list. Eg: if L = [1, -2, 3, 4, -5, 7] , the output should be: [-2, -5, 3, 4, 7]</p>
Ans	<pre>def arrangements(X):     L=len(X)     for i in range(L):         if a[i]&lt;0 and i!=0:             j=i             while j!=0 and a[j-1]&gt;0 :                 a[j],[j-1]=a[j-1],a[j]             j=j-1</pre>
87	<p>Write a python function generatefibonacci(n) where n is the limit, using a generator function Fibonacci (max)( where max is the limit n) that produces Fibonacci series..</p>

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Ans	<pre>def Fibonacci (max):     a, b = 0, 1     while a &lt;= max:         yield a         a, b = b, a + b def generatefibo(n)     for i in Fibonacci (n):         print i,</pre>
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88	Evaluate the following postfix using stack & show the content of the stack after the execution of each: 20, 4, +, 3, -, 7, 1
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Ans	<p>Ans:</p> <table border="1"> <thead> <tr> <th>S.no</th> <th>Symbol</th> <th>Operation</th> <th>Stack</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>20</td> <td>push(20)</td> <td>20</td> <td></td> </tr> <tr> <td>2</td> <td>4</td> <td>push(4)</td> <td>20,4</td> <td></td> </tr> <tr> <td>3</td> <td>+</td> <td>pop(4)</td> <td>20</td> <td></td> </tr> <tr> <td>4</td> <td></td> <td>pop(20)</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>perform(20+4)</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>push (24)</td> <td>24</td> <td></td> </tr> <tr> <td>5</td> <td>3</td> <td>push(3)</td> <td>24,3</td> <td></td> </tr> <tr> <td>6</td> <td>-</td> <td>pop(3)</td> <td>24</td> <td></td> </tr> <tr> <td></td> <td></td> <td>pop(24)</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>perform(24-3)</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>push (21)</td> <td>21</td> <td></td> </tr> <tr> <td>7</td> <td>7</td> <td>push (7)</td> <td>21,7</td> <td></td> </tr> <tr> <td>8</td> <td>/</td> <td>pop(7)</td> <td>21</td> <td></td> </tr> <tr> <td></td> <td></td> <td>pop(21)</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>perform(21/7)</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>push (3)</td> <td>3</td> <td></td> </tr> <tr> <td>9</td> <td></td> <td>pop(3)</td> <td></td> <td>Result = 3</td> </tr> </tbody> </table>	S.no	Symbol	Operation	Stack	Result	1	20	push(20)	20		2	4	push(4)	20,4		3	+	pop(4)	20		4		pop(20)					perform(20+4)					push (24)	24		5	3	push(3)	24,3		6	-	pop(3)	24				pop(24)					perform(24-3)					push (21)	21		7	7	push (7)	21,7		8	/	pop(7)	21				pop(21)					perform(21/7)					push (3)	3		9		pop(3)		Result = 3
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89	Consider the following code : 1 f = open ("mytry", "w+") f.write ("0123456789abcdef")
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	<pre>f.seek (-3,2) //1 printf.read(2) //2</pre> <p>Explain statement 1 and give output of 2</p>
Ans	<p>Statement 1 uses seek() method can be used to position the file object at particular place in the file. Its syntax is :fileobject.seek(offset [, from_what]).</p> <p>So, f.seek(-3,2) positions the fileobject to 3 bytes before end of file.</p> <p>Output of 2 is :de (It reads 2 bytes from where the file object is placed.)</p>
90	<p>Write a user defined function in Python that displays the number of lines starting with 'H' in the file Para.txt. Eg: if the file contains:</p> <p>Whose woods these are I think I know. His house is in the village though; He will not see me stopping here To watch his woods fill up with snow.</p> <p>Then the line count should be 2.</p>
Ans	<pre>def countH():     f = open ("Para.txt", "r")      lines =0      l =f.readlines()      for i in l:          if i[0]=='H':              lines+=1      print "no. of lines is",lines</pre>
91	<p>Consider a binary file Employee.dat containing details such as empno:ename:salary (separator ' : '). Write a python function to display details of those employees who are earning between 20000 and 40000.(both values inclusive)</p>

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Ans	<pre>def Readfile():     i = open("Employee.dat","rb+")     x = i.readline()     while(x):         I = x.split(':')         if (20000&gt;=float(I[2])&lt;=5000):             print x         x = i.readline()</pre>
-----	---