**The *if-else* Statement**

The **if** statement by itself will execute a single statement, or a group of statements, when the expression following **if** evaluates to true.

It does nothing when the expression evaluates to false. Can we execute one group of statements if the expression evaluates to true and another group of statements if the expression evaluates to false? Of course! This is what is the purpose of the **else** statement that is demonstrated in the following example:

If his basic salary is less than Rs. 1500, then HRA = 10% of basic salary and DA = 90% of basic salary. If his salary is either equal to or above Rs. 1500, then HRA = Rs. 500 and DA = 98% of basic salary. If the employee's salary is input through the keyboard write a program to find his gross salary.

/\* Calculation of gross salary \*/

main( )

{

float bs, gs, da, hra ;

printf ( "Enter basic salary " ) ;

scanf ( "%f", &bs ) ;

if ( bs < 1500 )

{

hra = bs \* 10 / 100 ;

da = bs \* 90 / 100 ;

}

else

{

hra = 500 ;

da = bs \* 98 / 100 ;

}

gs = bs + hra + da ;

printf ( "gross salary = Rs. %f", gs ) ;

}

A few points worth noting...

* The group of statements after the **if** upto and not including the **else** is called an ‘if block’. Similarly, the statements after the **else** form the ‘else block’.
* Notice that the **else** is written exactly below the **if**. The statements in the if block and those in the else block have been indented to the right. This formatting convention is followed throughout the book to enable you to understand the working of the program better.
* Had there been only one statement to be executed in the if block and only one statement in the else block we could have dropped the pair of braces.
* As with the **if** statement, the default scope of **else** is also the statement immediately after the **else**. To override this default scope a pair of braces as shown in the above example must be used.

**Nested *if-elses***

It is perfectly all right if we write an entire **if-else** construct within either the body of the **if** statement or the body of an **else** statement. This is called ‘nesting’of **if**s. This is shown in the following program.

/\* A quick demo of nested if-else \*/

main( )

{

int i ;

printf ( "Enter either 1 or 2 " ) ;

scanf ( "%d", &i ) ;

if ( i == 1 )

printf ( "You would go to heaven !" ) ;

else

{

if ( i == 2 )

printf ( "Hell was created with you in mind" ) ;

else

printf ( "How about mother earth !" ) ;

}

}