SNS COLLEGE OF TECHNOLOGY
(An Autonomous Institution)
Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai
Accredited by NAAC-UGC with 'A++' Grade (Cycle III) &
Accredited by NBA (B.E - CSE, EEE, ECE, Mech & B.Tech.IT)
COIMBATORE-641 035, TAMIL NADU

DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

Course Code & Name : **23CST201-Object Oriented Programming**

Course Faculty : Ms.K.Kalaivani, AP/CST

Puzzles / In Class Activities

Topics Covered: **Unit 5**

IO Streams

Puzzle 1: The Water Pipeline

Imagine a city water pipeline carrying water from a reservoir to homes. If the pipe is blocked, the water supply stops immediately and people cannot use water.

Real-time example: In Java, IO streams transfer data from one source to another, such as reading data from a file and writing it into another file.

Puzzle: Why can a small blockage stop the entire water supply even when the pipeline is strong?

Puzzle 2: The Courier Delivery

A courier package travels from sender to receiver through many delivery centers. If the address is wrong, the package cannot reach the destination.

Real-time example: Input streams read data from a source, and output streams send data to a destination.

Puzzle: Why is the destination address important for successful delivery?

Console Operation

Puzzle 1: The Microphone System

A microphone takes sound as input and the speaker gives sound as output. If the microphone fails, the audience cannot hear anything.

Real-time example: Console operations in Java allow users to give input and receive output.

Puzzle: Why can't the speaker produce sound without microphone input?

Puzzle 2: The Ticket Counter

At a railway station, a customer gives destination details before receiving a ticket. If the details are wrong, the wrong ticket is printed.

Real-time example: Scanner class in Java collects input from the user.

Puzzle: How does incorrect input affect the final result?

File Operations

Puzzle 1: The School Record Cabinet

A school stores student records in a cabinet so they can be used later. If the records are lost, the information cannot be recovered easily.

Real-time example: Java file handling stores and retrieves data permanently.

Puzzle: Why is file storage important for future use?

Puzzle 2: The Copy Machine

A copy machine duplicates a document. If power fails in the middle, only half the document gets copied.

Real-time example: File copy operations transfer data from one file to another.

Puzzle: Why should file copying complete without interruption?

Object Serialization

Puzzle 1: Packing for Travel

Before traveling, you pack your clothes in a suitcase so they can be carried safely and unpacked later.

Real-time example: Serialization converts objects into byte streams for storage or transfer.

Puzzle: Why should objects be converted before sending?

Puzzle 2: Opening the Suitcase

After reaching your destination, you open the suitcase and use the items again. The original items are restored.

Real-time example: Deserialization restores byte streams back into objects.

Puzzle: What happens if the suitcase is damaged before opening?

JavaScript Basics

Puzzle 1: Traffic Signal Instructions

Traffic signals control vehicles by giving instructions such as stop, wait, and go. Drivers follow these commands immediately.

Real-time example: JavaScript controls webpage actions by executing commands.

Puzzle: How is JavaScript similar to traffic signals?

Puzzle 2: The TV Remote

Each button on a TV remote performs a different function like changing channels or adjusting volume.

Real-time example: JavaScript functions perform tasks when called.

Puzzle: Why does each button produce a different action?

JavaScript Validation

Puzzle 1: Security Gate Check

Before entering a building, security checks your ID card. Without verification, entry is not allowed.

Real-time example: JavaScript validation checks user input before submission.

Puzzle: Why is checking important before processing data?

Puzzle 2: Exam Hall Entry

Students must show their hall ticket before entering the exam hall. Without it, they cannot write the exam.

Real-time example: Validation ensures correct data entry.

Puzzle: What happens if verification is skipped?

JDBC Connectivity

Puzzle 1: Telephone Connection

Two people can speak only when the telephone connection is active. If the connection breaks, communication stops.

Real-time example: JDBC connects Java applications with databases.

Puzzle: What happens when the database connection fails?

Puzzle 2: ATM and Bank Server

An ATM communicates with the bank server to check balance and process transactions. Without a connection, it cannot work.

Real-time example: JDBC helps fetch and update records in a database.

Puzzle: Why is server connection important for ATM transactions?