



SNS COLLEGE OF ENGINEERING

Coimbatore-107
An Autonomous Institution



COURSE NAME : 23CSB201 & Object Oriented Programming

II YEAR/ III SEMESTER

UNIT – IV I/O, GENERICS, STRING HANDLING

Topic: IO basics

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Introduction



- Java I/O (Input and Output)
- How to Reads data from input sources(Keyboard, File, Network)
- How to write data to Output destination(Console)
- Example

- **Output**

System.out.println(); or

System.out.print(); or

System.out.printf();

- **Input**

Scanner input = new Scanner(System.in);



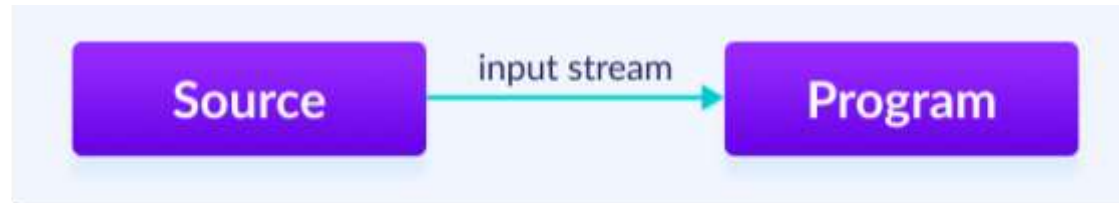
Introduction

- Java provides IO via **packages**
 - `import java.io.*;`
 - `Import java.util.Scanner;`
- java.io package contains all the classes required for input and output operations
- Java uses the concept of a stream to make I/O operation fast
 - Stream
 - Abstractions for reading/writing data (byte and character-based)
 - InputStream, OutputStream (byte)
 - Reader, Writer (character)

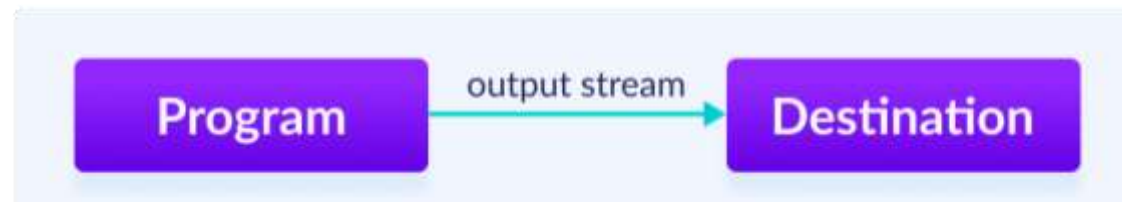


Java I/O Streams

- streams are the sequence of data that are read from the source and written to the destination
- Two Streams
 - Input Stream
 - Output Stream
- An **input stream** is used to read data from the source File



- An **output stream** is used to write data to the destination File





Example

```
class HelloWorld
{
    public static void main(String[] args)
    {
        System.out.println("Hello, World!");
    }
}
```

Question

What is the use of **System.out** ?



Types of Streams

- Depending upon the data a stream holds, it can be classified into:
 - Byte Stream
 - Character Stream
- **Byte Stream**
 - Byte stream is used to read and write a single byte (8 bits) of data
 - All byte stream classes are derived from **base abstract classes** called InputStream and OutputStream

Home Work

- Java InputStream Class
- Java OutputStream Class



Types of Streams

- **Character Stream**

- Character stream is used to read and write a single character of data
- All the character stream classes are derived from base abstract classes Reader and Writer

Home work

- Java Reader Class
- Java Writer Class



References



- Java : the complete Reference (Eleventh Edition), Herbert Schildt, 2018.

