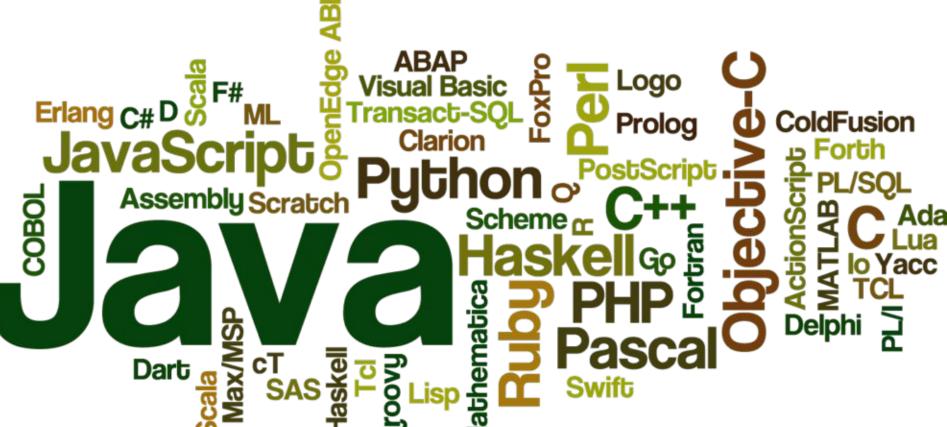# Module – VI

Importance of Scanner Class

What you will Learn

- Java Scanner with Example

- Why Scanner

- Important Methods of Scanner

- How to Get Java Scanner

- Scanner Class Constructor

- Scanner Class Method

Java Scanner

- Scanner class in Java is found in the java.util package

- Java provides various ways to read input from the keyboard, the java.util.Scanner class is one of them

- The Java Scanner class breaks the input into tokens using a delimiter which is whitespace by default

- It provides many methods to read and parse various primitive values

- The Java Scanner class is widely used to parse text for strings and primitive types using a regular expression

- It is the simplest way to get input in Java

Java Scanner

- The Java Scanner class extends Object class and implements Iterator and Closeable interfaces

- The Java Scanner class provides nextXXX() methods to return the type of value such as nextInt(), nextByte(), nextShort(), next(), nextLine(), nextDouble(), nextFloat(), nextBoolean(), etc. To get a single character from the scanner, you can call next().charAt(0) method which returns a single character

Real life example of Scanner is ATM Machine;

- Cash Withdrawal

- Retrieve Mini-Statement

- Change Pin

Based on Our Input

- Select Option for Cash Withdrawal from Account

- Enter the Amount

- Enter the PIN

Important Methods

• public String next()	Returns the next token from the scanner
• public String nextLine()	Moves the scanner position to the next line and returns the value as a string
• public int nextInt()	Scans the next token as an int value
• public float nextFloat()	Scans the next token as a float value
• public double nextDouble()	Scans the next token as a double value

How to get Java Scanner

- To get the instance of Java Scanner which reads input from the user, we need to pass the input stream (System.in) in the constructor of Scanner class. **For Example**

  Scanner in = new Scanner(System.in);

- To get the instance of Java Scanner which parses the strings, we need to pass the strings in the constructor of Scanner class. For Example

  - Scanner in = new Scanner("ICT Academy");

Example

```java
import java.util.*;
public class Main {
  public static void main(String args[]){
    Scanner in = new Scanner(System.in);
    System.out.println("------Welcome to ICT ATM-------");
    System.out.println("Enter the amount to withdraw");
    int amount = in.nextInt();
    System.out.print("Enter the PIN: ");
    int pin=in.nextInt();
    System.out.println("Thanks for Using ICT ATM");
    System.out.println("Amount you have withdrawal is:" + amount);
    in.close();
  }
}
```

Scanner class Constructor

Constructor	Description
• Scanner(File source)	It constructs a new Scanner that produces values scanned from the specified file.
• Scanner(File source, String charsetName)	It constructs a new Scanner that produces values scanned from the specified file.
• Scanner(InputStream source)	It constructs a new Scanner that produces values scanned from the specified input stream.
• Scanner(InputStream source, String charsetName)	It constructs a new Scanner that produces values scanned from the specified input stream.
• Scanner(Readable source)	It constructs a new Scanner that produces values scanned from the specified source.

Scanner class Method

Modifier & Type	Method	Description
String	toString()	It is used to get the string representation of Scanner using.
Scanner	useDelimiter()	It is used to set the delimiting pattern of the Scanner which is in use to the specified pattern.
Scanner	useLocale()	It is used to sets this scanner's locale object to the specified locale.
Scanner	useRadix()	It is used to set the default radix of the Scanner which is in use to the specified radix.
String	toString()	It is used to get the string representation of Scanner using.

Example

```java
import java.util.*;
public class Main {
 public static void main(String args[]){
   Scanner scan = new Scanner(System.in);
   System.out.println("-------Enter Your Details-------- ");
   System.out.print("Enter your name: ");
   String name = scan.next();
   System.out.println("Name: " + name);
   System.out.print("Enter your age: ");
   int i = scan.nextInt();
   System.out.println("Age: " + i);
   System.out.print("Enter your salary: ");
   double d = scan.nextDouble();
   System.out.println("Salary: " + d);
   scan.close();
 }
}
```

Example

```java
import java.util.*;
public class Main {
  public static void main(String args[]){
    String str = "ICT Academy/is/the/best/training/Organisation";
    Scanner scanner = new Scanner(str);
    scanner.useDelimiter("/");
    System.out.println("---Result---");
    while(scanner.hasNext()){
      System.out.println(scanner.next());
    }
    System.out.println("Delimiter used: " +scanner.delimiter());
    scanner.close();
  }
}
```