Backend and Database Development

13 classes

Day 1 : 22 Apr 2024

Java Technologies

Core Java Basic Programming

OOPs concept

Exception Handling

Overview of multithreading

Collection Framework

MySQL Database

JDBC

Maven tools

Servlet

JSP

IDE : Eclipse

Java : Java is platform independent and pure object oriented programming language.

Java developed in nov 1995. Initial name of java is Oak.

Java developed by Games Josling and Team. It was belong to sun micro system but now a part of oracle.

Version

1.0	1.1	1.2	1.7, 1.8	Java 22

OOPs : object oriented programming system

Object : object is any real world entity.

	Properties or state	have	-→ variables or fields
Person			
	Behaviour	do/does	-→ functions / methods
	Wheel, colour, price etc		
Car			
	Start(), appliedGear(), moving(), stop()		

Bank

Animal

Employee

Custom

Product

Order

Object is a concept.

Class : blue print of object or template of object.

Class syntax

```
class ClassName {
        property or variables
        behaviour or methods
}
class Demo {
        public static void main(String args[]) {
        System.out.println("Welcome to java");
        }
}
```

In java class name must be follow pascal naming rules.

1. If class contains one word. First letter upper case.
2. If it contains more than one word. Then each word first letter upper case.
3.

Variable : variable is a name which hold the value.

Data types : Data type is a type of data which tells what type of data it can hold.

In java data types mainly divided into two types.

1. Primitive data types : it is use to store only value
   8 types
   a. Byte 1 byte
   b. Short 2 byte
   c. Int 4 byte
   d. Long 8 byte without decimal
   e. Float 4 byte
   f. Double 8 byte with decimal
   g. Char 2 byte any single character
   h. Boolean 1 bit true or false.
2. Non primitive data types : it is use to store value as well as reference of another data types.

Type casting : converting from one data type to another data type is known as type casting.

1. Implicit type casting
2. Explicit type casting

Int family

----------→ implicit type casting ----------→

Byte short int long

←---------- explicit type casting ----------

Int to float and vice-versa

By default any decimal number in java double consider.

Reference data type or non primitive data types.

1. array : array is non primitive or reference data types.
2. Class : pre defined or user defined class
3. Interface : pre defined or user defined interface
4. Enum : pre defined or user defined enum

Operator

If statement

Switch statement

Looping

While loop

Do while loop

For loop

For each or enhanced loop

for(datatype variableName: arrayName) {

}

Array : array is known as reference or non primitive data types which is use to store more than one value of same types.

Syntax to declare the array

Datatype arrayname[];

int num[]; declaration

int num[]={10,20,30,40,50}; declaration with initialization

int num[]=new int[10]; memory creation.

Array value start with index position 0.

Taking the value through keyboard in java

1. Scanner class : Scanner is a pre defined class part of util package. Package is a collection of classes and interfaces. This class help us to take the value through keyboards.

   Syntax to create Scanner class object.

   Scanner sc = new Scanner(System.in);

   This class part of util package we need to import outside class.
   import java.util.Scanner;

String : in Java String is a pre defined class or also known as reference data types.

Syntax to create the String object.

String name = “Steven”;

User defined static methods

Method is use to write the set of statement. Which we can do re-usability the code.

Syntax for methods

returntype methodName(parameterList) {

}

Note : static method can't invoke non static method directly.

1. Method no passing parameter as well as no return type.
   static void info() {
   set of statements
   }
2. Method passing parameter and no return type.
   static void add(int a, int b) {

   }
3. Passing parameter as well as return the value

   static String sayHello(String name) {

   return "Welcome user "+name

   }