Lesson - 1

Java Support OO, Functional Programming

OO - Concepts

Class

Object

Polymorphism - Multiple form

Inheritance - Derive a new class from the existing class

Lesson – 2

Data Types

1. Primitive Types

2. Reference Type / Object Type

char type - Assign character in a single quotes

char ch = 'A';

char ch1 = '\u0041';

char ch2 = 65; \\ value of A

How to get input from the console

1. JoptionPane - Swing library(JDK1.2) - Read as String, need parsing to convert number type

2. BufferedReder & InputStreamReader(JDK1.1) - Read as String using Read(), ReadLine()

3. Scanner - JDK 5.0 (Mostly recommended) - Read as String, Int, Float

BufferedReader ob = new BufferedReader(new InputStreamReader(System.in));

Scanner ob = new Scanner(System.in);

int x = ob.nextInt()

int x = 10

int y = 5;

int z = 0;

if(x>y)

z = x;

else

x = y;

Ternary operator(?:)

z = (x>y)?x:y;

Random Numbers

```
public static void main(String[] args) {
          // TODO Auto-generated method stub
          System.out.println(Math.PI);
          double res = Math.pow(5, 2);
          // 1. To get a random number from Math
          double rv = Math.random(); // range of 0 to 1
          System.out.println(res);
          System.out.println(rv);
          //2. Random class - API
          Random ob = new Random();
          int r1 = ob.nextInt(10);
          System.out.println("r1 = " + r1);
          // 3. You have user defined class RandomNumbers -
generate in the range
          int rn = RandomNumbers.getRandomInt(15, 30);
          System.out.println(rn);

          // Explicit conversion / Casting
     double  a = 9.997;
          int a1 = (int) Math.round(a);
     System.out.println("Double to int value :" + a1);

     // Automatic promotion - Perform Arithmetic operations
on byte will give result on int

     byte b1 = 10;
     byte b2 = 11;
     byte b3 = (byte) (b1+b2); // or int b3 = b1 + b2;
```

}

Java String

String x = “Java”;

// Within Double quotes – sequence of Character

Strings are Immutable

Try to modify the x value

X = x + “Programming”;

If modify the value it does not modify the original, instead of modifying it will create a new String with the value of “Java Programming”

// How to declare strings

String x = “ Java” ; // String Literal

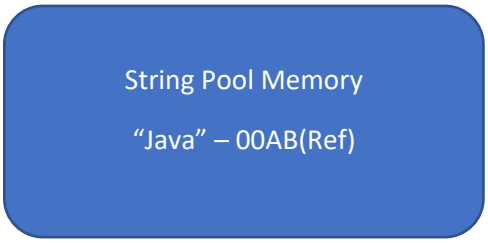
String x1 = new String(“Java”); String object

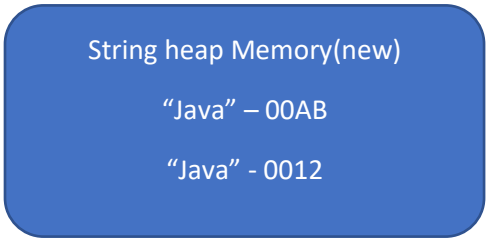
String Literal	String Object
Declare using Equal	Create using new keyword
It Stores on String pool memory	It stores on heap memory
If string literals are equal or not compare using ==	If string objects are equal or not compare using equals() method
String comparison using == checks the references are same	String comparison using equals() checks the contents are same
Come from java.lang.String	Come from java.lang.String

String x = “ Java” ; → Refer the pool memory 00AB

String y = “Java”; → Refer the pool memory 0012

String z = y; // 0012





String x1 = new String(“Java”); // 00AB

String x1 = new String(“Java”); // 0012

Formatting Strings

1. System.out.printf() – Will directly print on the console
2. String.format() → Which returns a string.

Looping

1. While(cond) { } – It execute only the condition becomes true – Entry controlled loop
2. Do {} while(condition) – Atleast one time statement will execute whether condition is true or false. → Exit Controlled loop
3. For(index, condition, inc/decrem)
4. For each

*****

* * * * *

* * * * *

* * * * *

* * * * *

Commandline Arguments.

Requirements

1. Read the input from the Commandline
2. Read from the args[] and add each word in to the string, separated by Comma and add (.) at the end.

Inputs : args[] = {“Java”,”HTML”,”C++”}

Outputs(String) : Java,HTML,C++.

String res = null;

For(int i =0; i<args.length-1;i++)

    Res = res + args[i] + “,”;

Res = res + args[length-1] + “.”;

Strings are immutable, to overcome costly concatenation
Java Mutable String Libraries for concatenation

1. StringBuilder – Thread Safe – Single threaded environment
2. StringBuffer – Thread Safe – Multithread environment

HW Problem – 2

"231A,Light Bulb,123,Wilco,1.75:"
"113D,Hairbrush,19,Aamco,3.75

231A	Light Bulb	123	Wilco	1.75
113D	Hairbrush	19	Aamco	3.75

String.Split()
Row Split use delimeter (:)
Column split use delimeter(,)