**Assignment -4**

1. Code and compile following :

public class Static {

private String name = "Static class";

public static void first() { }

public static void second() { }

public void third() { System.out.println(name); }

public static void main(String args[]) {

first();

second();

third();

} }

Observe the compilation error and try to fix the error. Corrected code is to be included in file.

2. Code and compile both class definitions

First Code

class calltest{

public static void main (String a[]){

String s=new String("English");

fun(s);

System.out.println(s);

}

static void fun(String s){

System.out.println(s);

s="Hindi";

System.out.println(s);

}}

Second Code

class intc{

int x;

} class reftest{

public static void main (String a[]){

intc o=new intc();

fun(o);

System.out.println(o.x);

}

static void fun(intc s){

System.out.println(s.x);

s.x=10;

System.out.println(s);

}}

Observe and NOTE the difference in the output behaviour.

3. Code and test the following , NOTE the output and justify it.

public class Percolate {

public static void main (String[] args) {

int[] dataSeq = {6,4,8,2,1};

printIntArray(dataSeq);

for (int index = 1; index < dataSeq.length; ++index)

if (dataSeq[index-1] > dataSeq[index])

swap(dataSeq, index-1, index);

printIntArray(dataSeq);

}

public static void swap(int[] intArray, int i, int j) {

int tmp = intArray[i]; intArray[i] = intArray[j]; intArray[j] = tmp;

}

public static void swap(int v1, int v2) {

int tmp = v1; v1 = v2; v2 = tmp;

}

public static void printIntArray(int[] array) {

for (int value : array)

System.out.print(" " + value);

System.out.println();

}

}

4. Code and test the following , NOTE the output and justify it.

public class ParameterPass {

public static void main(String[] args) {

int i = 0;

addTwo(i++);

System.out.println(i);

}s

tatic void addTwo(int i) {

i += 2;

}}

5. Write and test the following method that returns digit number k of the positive integer n:

static int digit(long n, int k)

For example, digit ( 8 6 4 2 1 , 3 ) would return 6, and digit ( 8 6 4 2 1 , 7 ) would return 0.

6. Write and test the following recursive method that returns the nth triangular number:

static long t(int n)

The triangular numbers are 0, 1,3,6, 10, 15,21,28, ... . Note that t(n) = t(n-1) + n for n > 1.

7. Write java program to demostrate use of static block. Excersice to know when static block is executed?