Roll NO 57

Problems for Implementation.

1) Create a class called Employee that includes three pieces of information as instance variables: first name, last name, and monthly salary. Your class should have a constructor that initializes the three instance variables. Provide a setter and getter method for each instance variable. If the monthly salary is not positive, set it to 0.0. Write a test application named EmployeeTest that demonstrates the Employee class's capabilities. Create two Employee objects and display each object's yearly salary. Then give each Employee a 10% raise and display each Employee's yearly salary again. import

```
java.util.*; class
Employee {  String
fname;   String
lname;   double
m_salary;    public
Employee() {
                fname = "";
lname = "";
m_salary = 0.0;
   }
   public void checkSalary(double
M_salary){           if (m_salary<0){
m_salary = 0.0;
      }
else{
          this.m_salary = M_salary;
      }
   }
    public void getInfo(){
      Scanner sc = new Scanner(System.in);
System.out.println("Enter the first name:");
fname = sc.nextLine();
      System.out.println("Enter the last name:");
lname = sc.nextLine();
      System.out.println("Enter the monthly
salary:" m_salary = sc.nextDouble();
      sc.close();
 }
 public double getYearlySalary() {
return m_salary * 12;
   }
 public double giveRaise() {
return m_salary *= 1.10;
   }
   public void displayInfo() {
      System.out.println("First Name: " + fname);
      System.out.println("Last Name: " + lname);
      System.out.println("Monthly Salary: " +
m_salary);
      System.out.println("Yearly salary:"+
getYearlySalary());
      System.out.println("Monthly raise salary:"+
giveRaise());
  }
} class EmployeeTest{     public static
void main(String args[]){        Employee
ob1 = new Employee();
      ob1.getInfo();
ob1.displayInfo();}
}
```

Output:

the first name:

snehal

the last name:

vibhute

Enter the monthly salary:

1000 Enter

First Name: snehal

Last Name: vibhute Enter

Monthly Salary: 1000.0

Yearly salary:12000.0

Monthly raise salary:1100.0

2.Implement a Java program to print the area of a rectangle by creating a class named 'Area' that has two methods. The first method, named 'setDim', takes the length and breadth of the rectangle as parameters. The second method, named 'getArea', returns the area of the rectangle. The length and breadth of the rectangle are entered through the keyboard

```
public class Area {
double length;    double
breadth;

   void setDim(double l,double b){
      length=l;
breadth=b;
   }
   double get_area(){
      System.out.println("lenght" +
length);
      System.out.println("Breadth" +
breadth);                    return
length*breadth;
   }
   public static void main(String[] args) {
      Area a=new Area();
      a.setDim(23.9, 13.4);
//    double v= a.Rect_arae();
     System.out.println("Area:" +
a.get_area());}
```

Output:

lenght23.9

Breadth13.4

Area:320.26

```
}
```

3.Write a Java program to demonstrate the use of static variables, static blocks, and static methods.

```
public class Static_use {

    static int a=3;

    static int b;

    static void method(int x){

        System.out.println("x=" + x);

        System.out.println("a=" + a);

        System.out.println("b=" + b);

        }
     static{

          System.out.println("Static block
is executed.");

                b=a*4;

}

      public static void main(String []
  args){
                method(4);

                }
```

Output:

Static block is executed.

X

=

=

4

a

=

3

b

=

1

2

4.Write a Java program to implement a stack and a queue.

```
import java.util.*; public class
stack1 {   // Push operation    int
push(int n, int[] arr, int top) {
if (top == n - 1) {
        System.out.println("Overflow condition");
      } else {
        Scanner s = new Scanner(System.in);
        top++;
        System.out.println("Push element at index " + top);          int num = s.nextInt();
                                                                  Scanner sc = new Scanner(System.in);
        arr[top] = num;
```

```
                                                    System.out.println("Enter size of stack");
    }       n = sc.nextInt();
    return top;       int[] arr = new int[n];
  }       int top = -1;


  // Display operation
                                                    Stack obj = new Stack();
  void display(int n, int[] arr, int top) {       int choice;
    if (top == -1) {      do{  System.out.println("1.perform push");
      System.out.println("Stack is empty");
                                                      System.out.println("2.dispaly");
    } else {
                                                      System.out.println("3.perform pop");
      System.out.println("Elements in stack:");
                                                      System.out.println("4.exit");
      for (int i = top; i >= 0; i--) {
                                                      System.out.println("Enter Choice");
        System.out.println(arr[i]);          choice=sc.nextInt();
      }

    }
                                                    switch(choice){
  }          case 1:{

                                                        // Push elements to the stack
  // Pop operation       for (int i = 0; i < n; i++) {
  int pop(int[] arr, int top) {          top = obj.push(n, arr, top);
    if (top == -1) {
                                                    }
      System.out.println("Underflow condition!");       break;
    } else {
                                                   }
      System.out.println("Popped element: " + arr[top]);          case
                                                   2:{
      top--;             obj.display(n, arr, top);
    }            break;
    return top;
                                                      }
  }          case 3:{
           while (top >= 0) {
  public static void main(String[] args) {              top = obj.pop(arr, top);
    int n;

         }
break;
```

```
        }
case 4:
        {
           System.out.println("Exit");
        }
}while(choice!=4);
   }
}
```

Output

Enter size of stack

4

1.perform push

2.dispaly

3.perform pop

4.exit

Enter Choice

1

Push element at index 0

2

Push element at index 1

4

Push element at index 2

5

Push element at index 3

7

Enter Choice

4

Exit

5. Write a Java program to arrange 10 names in alphabetical order.

```
import java.util.*; class Names
{
        public static void main(String args[])
        {
  String[] names = new String[10];   Scanner sc = new
Scanner(System.in);   for(int i =0;i<10;i++)
                {
                        names[i] = sc.nextLine();
                }
                int arr[] = new int[10];              for(int i
=0;i<10;i++){                       arr[i] =
(int)names[i].charAt(0);
                }
                for(int i=0;i<10;i++)
                {
                        for(int j = i+1;j<10;j++)
                        {
                                if(arr[i] > arr[j])
                                {
                                        int temp =
arr[j];                                 arr[j] = arr[i];
                                        arr[i] = temp;
                        }
                }
                System.out.println();
                System.out.println("Na
                mes in alphabetical
                order"); for(int i
                =0;i<10;i++){    for(int j
                =0;j<10;j++){
                if(arr[i] ==
                (int)names[j].charAt(0)
                )
                )){
                System.out.println(""+nam
                es[j]); }}}
                }}
```

Output:

Swaroop

Vilas

Zion

Gukesh

Puresh

Kali

Anil

Bhagwat

Nilesh

Don

Names in alphabetical order

Anil

Bhagwat

Don

Gukesh

Kali

Nilesh

Puresh

Swaroop

Vilas

Zion