

# WEB TECHNOLOGY

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**DEPARTMENT** : IT

**SEMESTER** : 5

**SUBJECT CODE** : IT5501

**DATE** : 16-10-2022

# ASSIGNMENT 1

- ② Write a java program to display, prime numbers.
- ③ Check palindromic number.
- ④ Student Details.
- ⑤ With class background for bank account with the following methods.
  - \* credit
  - \* debit
  - \* display
- ⑥ Transpose of the matrix
- ⑦ Copy a subset of array elements to another array
- ⑧ class LibraryBooks with methods, insertBook, Borrowbook, display, Browse.

## QUESTION : 1

```
import java.util.*;  
  
class prime  
{  
    int prime(int n)
```

```

    {
        for(int i=2;i<n/2;++i)
        {
            if(n%i==0){return 0;}
        }
        return 1;
    }

    public static void main(String[] args)
    {
        prime obj=new prime();
        Scanner in=new Scanner(System.in);
        System.out.print("Enter the number = ");
        int num=in.nextInt();
        int out=obj.prime(num);

        if(out==0){System.out.println("Not a prime
number");}
        else{System.out.println("It is a prime number");}
    }
}

```

## OUTPUT:

```

PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> & 'C:\Program Files\Java\jdk-17.0.1\bin\java.exe' '-
XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData\Roaming\Code\User\workspaceStorage\
a7525130cbf984b3355fd915c50bb4a3\redhat.java\jdt_ws\Assignment 1_869ebb48\bin' 'prime'
Enter the number = 42
Not a prime number
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1>

```

## QUESTION : 2

```
import java.util.*;

public class palindrome
{
    boolean ispalin(int n){
        int rem,rev=0,i=0,temp=n;
        while(temp>0){
            rem=temp%10;
            rev=rev*10+rem;
            temp=temp/10;
        }
        boolean ans=(n==rev)?true:false;
        return ans;
    }

    public static void main(String[] args)
    {
        Scanner inp=new Scanner(System.in);
        palindrome obj= new palindrome();
        System.out.print("Enter the number = ");
        int n=inp.nextInt();
        if(obj.ispalin(n)){System.out.print("It's
palindrome");}
        else{System.out.print("Not a palindrome");}
    }
}
```

## OUTPUT:

```
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> & 'C:\Program Files\Java\jdk-17.0.1\bin\java.exe' '-
XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData\Roaming\Code\User\workspaceStorage\
a7525130cbf984b3355fd915c50bb4a3\redhat.java\jdt_ws\Assignment 1_869ebb48\bin' 'palindrome'
Enter the number = 12321
It's palindrome
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> █
```

## QUESTION : 3

```
import java.util.Scanner;

public class student_details {
    long roll_no,mob;
    String name;

    void getdetails()
    {
        Scanner inp=new Scanner(System.in);
        System.out.print("Enter the Name = ");
        name=inp.nextLine();
        System.out.print("Enter the Roll number = ");
        roll_no=inp.nextLong();
        System.out.print("Enter the Mobile number = ");
        mob=inp.nextLong();
    }
    void display()
    {
        System.out.println("Name = "+name);
        System.out.println("Roll number = "+roll_no);
        System.out.println("Mobile number = "+mob);
    }

    public static void main(String[] args)
    {
        student_details obj=new student_details();
        obj.getdetails();
        obj.display();
    }
}
```

**OUTPUT:**

```
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> & 'C:\Program Files\Java\jdk-17.0.1\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData\Roaming\Code\User\workspaceStorage\7525130cbf984b3355fd915c50bb4a3\redhat.java\jdt_ws\Assignment 1_869ebb48\bin' 'student_details'
Enter the Name = Rahul
Enter the Roll number = 2020506070
Enter the Mobile number = 9842951391
Name = Rahul
Roll number = 2020506070
Mobile number = 9842951391
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> █
```

## QUESTION : 4

```
import java.util.Scanner;

public class bank_account{
    long acc_no,mob;
    float balance=1000;
    String Name;
    Scanner inp=new Scanner(System.in);

    void getdetails()
    {
        System.out.print("Enter the Name = ");
        Name=inp.nextLine();
        System.out.print("Enter the Acc number = ");
        acc_no=inp.nextLong();
        System.out.print("Enter the Mobile number = ");
        mob=inp.nextLong();
    }

    void display()
    {
        System.out.println("\n-----");
        System.out.println("Name = "+Name);
        System.out.println("Account number = "+acc_no);
        System.out.println("Mobile number = "+mob);
        System.out.println("Current balance = "+balance);
    }
}
```

```
        System.out.println("-----\n");
    }

    void credit()
    {
        System.out.print("Enter the amount to deposit - ");
        balance+=inp.nextFloat();
    }

    void debit()
    {
        System.out.print("Enter the amount to withdraw - ");
        float amt=inp.nextFloat();
        if(amt<balance){ balance-=amt;}
        else{System.out.println("Insufficient Balance\n");}

    }

    public static void main(String[] args)
    {
        bank_account obj=new bank_account();
        obj.getdetails();
        while(true){
            System.out.print("Enter the choice = ");
            int ch=obj.inp.nextInt();
            switch(ch)
            {
                case 1:
                    obj.display();
                    break;

                case 2:
                    obj.credit();
                    break;

                case 3:
                    obj.debit();
                    break;

            }
        }
    }
}
```

```

        if(ch==0) break;
    }

}

}

```

## OUTPUT:

```

PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> & 'C:\Program Files\Java\jdk-17.0
xe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData\Roaming\Co
paceStorage\a7525130cbf984b3355fd915c50bb4a3\redhat.java\jdt_ws\Assignment 1_869ebb48\
count'
Enter the Name = Rahul
Enter the Acc number = 123456
Enter the Mobile number = 9842951391
Enter the choice = 1

-----
Name = Rahul
Account number = 123456
Mobile number = 9842951391
Current balance = 1000.0
-----

Enter the choice = 2
Enter the amount to deposit - 5000
Enter the choice = 1

-----
Name = Rahul
Account number = 123456
Mobile number = 9842951391
Current balance = 6000.0
-----

Enter the choice = 3
Enter the amount to withdraw - 500
Enter the choice = 1

-----
Name = Rahul
Account number = 123456
Mobile number = 9842951391
Current balance = 5500.0
-----

Enter the choice = 0
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> 

```



## QUESTION : 5

```
/*
 * To change this license header, choose License Headers in
Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
import java.util.*;
/**
 *
 * @author student
 */
public class Matrix_operations {

    void display(int A[][],int m,int n)
    {
        for(int i=0;i<m;++i)
        {
            for(int j=0;j<n;++j)
            {
                System.out.print(A[i][j]+" ");
            }
            System.out.println();
        }
    }

    void addition(int A[][],int B[][],int m,int n)
    {
        int ans[][]=new int[m][n];

        for(int i=0;i<m;++i)
        {
            for(int j=0;j<n;++j)
            {
                ans[i][j]=A[i][j]+B[i][j];
            }
        }
    }
}
```

```

        Matrix_operations obj=new Matrix_operations();
        this.display(ans, m, n);

    }

    void multiplication(int A[][],int B[][],int m,int n)
    {
        int ans[][]=new int[m][n];

        for(int i=0;i<m;++i)
        {
            for(int j=0;j<n;++j)
            {
                for (int
k=0;k<n;++k)

                    {ans[i][j]+=A[i][k]*B[k][j];}
            }
        }

        Matrix_operations obj=new Matrix_operations();
        this.display(ans, m, n);
    }

    void transpose(int A[][],int m,int n)
    {
        int ans[][]=new int[m][n];

        for(int i=0;i<m;++i)
        {
            for(int j=0;j<n;++j)
            {
                ans[i][j]=A[j][i];
            }
        }

        Matrix_operations obj=new Matrix_operations();
        this.display(ans, m, n);
    }

```

```

    }

    int[][] getmatrix(int m,int n)
    {
        int ans[][]=new int[m][n];
        Scanner inp=new Scanner(System.in);

        for(int i=0;i<m;++i)
        {
            for(int j=0;j<n;++j)
            {
                System.out.print("Enter arr["+i+"]["+j+"] = ");
                int x=inp.nextInt();
                ans[i][j]=x;
            }
        }

        return ans;
    }

    public static void main(String[] args)
    {
        Scanner inp=new Scanner(System.in);
        System.out.println("Enter the dimension of the matrix = ");

        int m=inp.nextInt();
        int n=inp.nextInt();

        Matrix_operations obj=new Matrix_operations();
        System.out.println("Matrx 1:");
        int A[][]=obj.getmatrix(m, n);
        System.out.println("Matrx 2:");
        int B[][]=obj.getmatrix(m, n);
        System.out.println("Addition = ");
        obj.addition(A, B, m, n);
        System.out.println("Multiplication = ");
    }
}

```

```

        obj.multiplication(A, B, m, n);
        System.out.println("Transpose = ");
        obj.transpose(A,m, n);

    }
}

```

## OUTPUT:

```

PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> & 'C:\Program Files\Java\jdk-17.0.1\bin\jav
xe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData\Roaming\Code\User\
paceStorage\a7525130cbf984b3355fd915c50bb4a3\redhat.java\jdt_ws\Assignment 1_869ebb48\bin' 'Ma
operations'
Enter the dimension of the matrix =
2 2
Matrx 1:
Enter arr[0][0] = 1
Enter arr[0][1] = 2
Enter arr[1][0] = 3
Enter arr[1][1] = 4
Matrx 2:
Enter arr[0][0] = 5
Enter arr[0][1] = 6
Enter arr[1][0] = 7
Enter arr[1][1] = 8
Addition =
6 8
10 12
Multiplication =
19 22
43 50
Transpose =
1 3
2 4
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1>

```

## QUESTION : 6

```

import java.util.*;

public class Sublist
{
    public static void main(String[] args)

```

```

{
    ArrayList<Integer> arr1=new ArrayList<>();
    Scanner inp=new Scanner(System.in);
    System.out.println("Enter the size of the array =
");

    int n=inp.nextInt();
    for(int i=0;i<n;++i)
    {
        arr1.add(inp.nextInt());
    }
    ArrayList<Integer> arr2=new ArrayList<>();
    arr2.addAll(arr1.subList(1, 4));
    System.out.println(arr1);
    System.out.println(arr2);
}
}

```

## OUTPUT:

```

PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> & 'C:\Program Files\Java\jdk-17.0.1\bin\jav
ailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData\Roaming\Code\User\workspaceStorage\a752
a3\redhat.java\jdt_ws\Assignment 1_869ebb48\bin' 'Sublist'
Enter the size of the array =
6
1
2
3
4
5
6
[1, 2, 3, 4, 5, 6]
[2, 3, 4]
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> 

```

## QUESTION : 7

```
import java.lang.reflect.Array;
```

```

import java.util.*;

import javax.sound.sampled.SourceDataLine;

class Details {
    String name, author;
    int borrow;

    Details(String name, String author, int borrow) {
        this.name = name;
        this.author = author;
        this.borrow = borrow;
    }

    void display() {
        System.out.println("Name = " + name);
        System.out.println("Author = " + author);
        System.out.println("Borrow status = "+borrow);
    }
}

public class Library {

    void update(ArrayList<Details> arr,String name)
    {
        int siz=arr.size();
        for(int i=0;i<siz;++i)
        {

            if((arr.get(i).name).equals(name)){
                if(arr.get(i).borrow==0)
{arr.get(i).borrow=1;System.out.println("Book is borrowed\n");}
                else System.out.println("Already Book is
borrowed");

                return;
            }
            else{
                System.out.println("Book is not
available");

```

```

        return;
    }
}

void List(ArrayList<Details> arr)
{
    System.out.println("\n\nBorrowed Books:");
    for(int i=0;i<arr.size();++i)
    {
        if(arr.get(i).borrow==1) arr.get(i).display();
    }

    System.out.println("\n\nAvailable Books:");
    for (int i = 0; i < arr.size(); ++i) {
        if (arr.get(i).borrow == 0)
            arr.get(i).display();
    }
}

int search(ArrayList<Details> arr,String name)
{
    int n=arr.size();
    for(int i=0;i<n;++i)
    {
        if((arr.get(i).name).equals(name)) return 1;
    }
    return 0;
}

```

```

public static void main(String[] args)
{
    ArrayList<Details> arr = new ArrayList<Details>();
    System.out.println("Choice list: ");
    System.out.println("1.Insert a book \n2.Borrow a
book\n3.Display\n4.Search");

    Library obj=new Library();

    while(true)
    {
        Scanner inp = new Scanner(System.in);
        System.out.print("\n\nEnter the choice - ");
        int ch=inp.nextInt();
        if(ch==111) break;

        String name,author;

        switch(ch)
        {
            case 1:
                System.out.print("Name of the book
= ");
                name=inp.next();
                System.out.print("Name of the
author = ");
                author=inp.next();
                Details det=new
Details(name,author,0);
                arr.add(det);
                System.out.println("New book
added");
                break;

            case 2:

```



```

        System.out.print("Name of the book
= ");

        String Name=inp.next();
        obj.update(arr, Name);
        break;

    case 3:
        obj.List(arr);
        break;

    case 4:
        System.out.print("Name of the book
= ");

        String Nam=inp.next();
        if(obj.search(arr, Nam)==1)
System.out.println("\nBook is present\n");
        else System.out.println("\nNo book
is present\n");

        break;

    default:
        System.out.println("Wrong
choice");
    }
}

}

}

```

**OUTPUT:**

Choice list:

- 1.Insert a book
- 2.Borrow a book
- 3.Display
- 4.Search

Enter the choice - 1

Name of the book = TIME

Name of the author = HAWKING

New book added

Enter the choice - 3

Borrowed Books:

Available Books:

Name = TIME

Author = HAWKING

Borrow status = 0

Enter the choice - 2

Name of the book = TIME

Book is borrowed

Enter the choice - 3

Borrowed Books:

Name = TIME

Author = HAWKING

Borrow status = 1

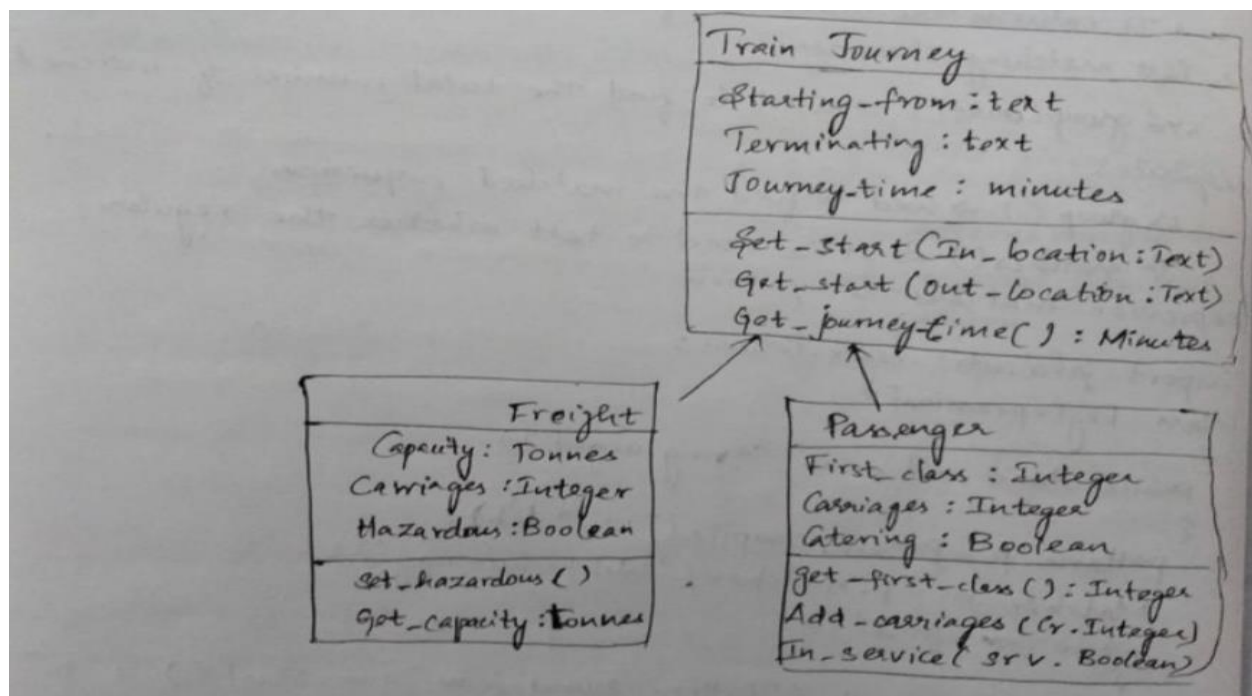
Available Books:

Enter the choice - 111

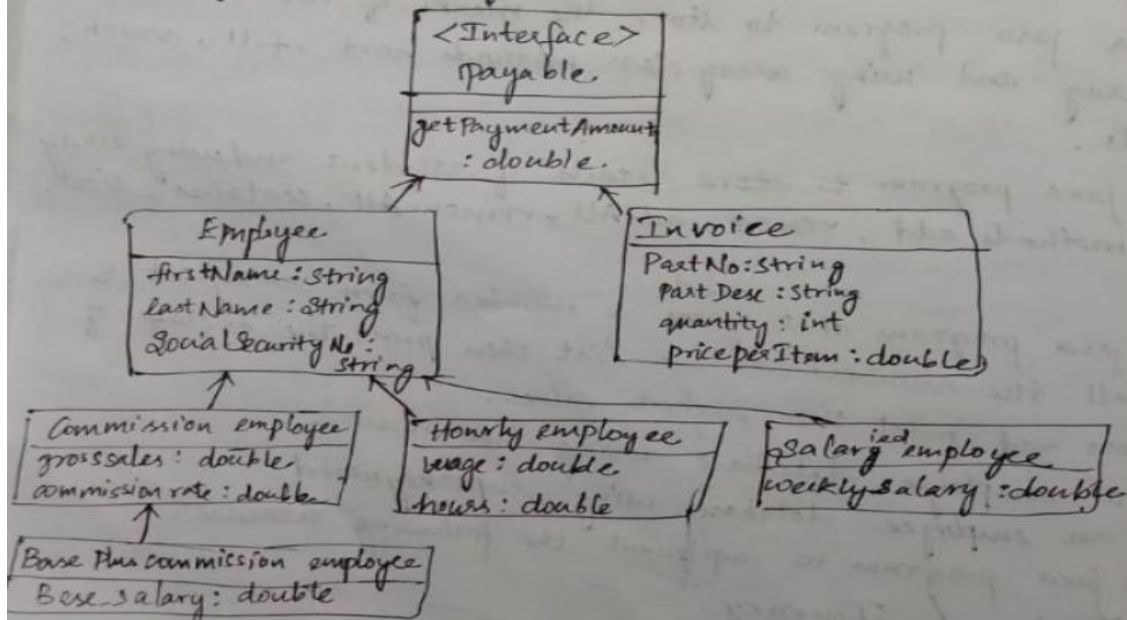
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 1> |

# ASSIGNMENT 2

- 1) Write a java program to store the marks of the student in an array and using array class methods sort, fill, search, and equals.
- 2) Write a java program to store details of student and using array list class methods add, remove, addAll, removeAll, contains, size, get.
- 3) Write a java program that <sup>reads</sup> gives a number from arraylist & displays all the numbers as a list then print the average of the numbers and print the highest value.
- 4) Develop an employee database using inheritance.
- 5) Develop an employee database using super keyword.
- 6) Write a java program to implement the following usecase.



Write a java program to implement the following specific use case, using inheritance, interface concepts and calculate the salary of an employee.



## QUESTION : 1

```

import java.util.*;

class Students_marks
{
    public static void main(String[] args)
    {
        Scanner inp=new Scanner(System.in);

        int arr[]=new int[5];
        for(int i=0;i<5;++i)
        {
            System.out.print("Enter the number = ");
            arr[i]=inp.nextInt();
        }

        //sort
        Arrays.sort(arr);
    }
}
    
```

```

        System.out.println(Arrays.toString(arr));

        //fill
        Arrays.fill(arr,0,2,1000);
        System.out.println(Arrays.toString(arr));

        //search
        System.out.print("Enter the element to search = ");
        System.out.println("Index = 
"+Arrays.binarySearch(arr, inp.nextInt()));

        //equals;
        int arr2[]=arr;

        System.out.println("Arr==Arr2 "+arr2.equals(arr));

    }
}

```

## OUTPUT:

```

PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> & 'C:\Program Files\Java\jdk-17.0.1\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData\Roaming\Code\User\workspaceStorage\f01ef487451e00992e405bb61b95afa7\redhat.java\jdt_ws\Assignment 2_869ebb49\bin' 'Students_marks'
Enter the number = 10
Enter the number = 5
Enter the number = 4
Enter the number = 3
Enter the number = 6
[3, 4, 5, 6, 10]
[1000, 1000, 5, 6, 10]
Enter the element to search = 6
Index = 3
Arr==Arr2 true
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> 

```

## QUESTION : 2

```
import java.util.*;

class Details
{
    String name,dep;
    int gpa;

    void getDetails()
    {
        Scanner inp=new Scanner(System.in);
        System.out.print("Enter the name = ");
        this.name=inp.next();
        System.out.print("Enter the department = ");
        this.dep=inp.next();
        System.out.print("Enter the GPA= ");
        this.gpa=inp.nextInt();
    }
}

public class Student {
    void delete(ArrayList<Details> arr,String name)
    {
        for(int i=0;i<arr.size();++i)
        {
            if((arr.get(i).name).equals(name))
            {
                arr.remove(i);
                System.out.println("\nStudent successfully
removed||\n");
            }
        }
    }

    void display(ArrayList<Details> arr)
```

```

{
    for(int i=0;i<arr.size();++i)
    {
        System.out.println("Name = "+arr.get(i).name);
        System.out.println("Department = "+arr.get(i).dep);
        System.out.println("gpa = "+arr.get(i).gpa);
        System.out.println("\n");
    }
}

ArrayList<Details> groupadd()
{
    Scanner inp=new Scanner(System.in);
    ArrayList<Details> arr2=new ArrayList<Details>();
    System.out.println("Enter the number of students= ");
    int n=inp.nextInt();

    for(int i=0;i<n;++i)
    {
        Details obj=new Details();
        obj.getDetails();
        arr2.add(obj);
    }
    return arr2;
}

void find(ArrayList<Details> arr,String name)
{
    int flag=0;
    for(int i=0;i<arr.size();++i)
    {
        if((arr.get(i).name).equals(name))
        {
            flag=1;
            System.out.println("\nStudent is present\n");
            return;
        }
    }
}

```

```

        if(flag==0) System.out.println("Student is not in the
list\n");
    }

    public static void main(String[] args)
    {
        Scanner inp=new Scanner(System.in);
        ArrayList<Details> arr=new ArrayList<Details>();
        System.out.println("Choice List");
        System.out.println("1.Insert a student\n2.Insert a group
of students\n3.remove a student\n4.find \n5.Display\n111 to
exit");

        while(true)
        {
            System.out.print("Enter the choice = ");
            int ch=inp.nextInt();
            if(ch==111) break;
            Student own=new Student();
            switch(ch)
            {
                case 1:
                    Details obj=new Details();
                    obj.getDetails();
                    arr.add(obj);
                    System.out.println("Student Added
succesfully");
                    break;

                case 2:
                    arr.addAll(own.groupadd());
                    System.out.println("All are added
Succssfully");
                    break;
                case 3:
                    System.out.print("Enter the name = ");
                    own.delete(arr, inp.next());
                    break;
                case 4:

```



```

        System.out.print("Enter the name to search =
");

        own.find(arr, inp.next());
        break;
    case 5:
        own.display(arr);break;
    default:
        System.out.println("Wrong choice");
        break;
    }
}
}
}
}

```

## OUTPUT:

```

Choice List
1.Insert a student
2.Insert a group of students
3.remove a student
4.find
5.Display
111 to exit
Enter the choice = 1
Enter the name = Rahul
Enter the department = IT
Enter the GPA= 9
Student Added succesfully
Enter the choice = 5
Name = Rahul
Department = IT
gpa = 9

Enter the choice = 3
Enter the name =
Rahul

Student successfully removed||

Enter the choice = 5
Enter the choice = 111
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> 

```

## QUESTION 3:

```
import java.util.*;

public class ArrayList {
    public static void main(String[] args)
    {
        ArrayList<Integer> arr=new ArrayList<>();
        Scanner inp = new Scanner(System.in);
        System.out.print("Enter the number of elements = ");
        int n=inp.nextInt();
        for(int i=0;i<n;++i)
        {
            System.out.print("Enter the element - ");
            arr.add(inp.nextInt());
        }

        System.out.println(Arrays.asList(arr));
        int sum=0;
        for(int i=0;i<n;++i)
        {
            sum+=arr.get(i);
        }
        System.out.println("Average of the array =
"+sum/arr.size());

        System.out.println("Maximum - "+Collections.max(arr));
        System.out.println("Minimum - "+Collections.min(arr));

        for(int i=0;i<arr.size();++i)
        {
            if(arr.get(i)%2!=0)
            {
                arr.remove(Integer.valueOf(arr.get(i)));
            }
        }
    }
}
```

```
        System.out.println(Arrays.asList(arr));  
    }  
}
```

## OUTPUT:

```
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> & 'C:\Program Files\Java\jdk-17.0.1\bin\java.exe'  
DetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData\Roaming\Code\User\workspaceStorage\f01ef48745  
1b95afa7\redhat.java\jdt_ws\Assignment 2_869ebb49\bin' 'Arraylist'  
Enter the number of elements = 5  
Enter the element - 1  
Enter the element - 2  
Enter the element - 3  
Enter the element - 4  
Enter the element - 5  
[[1, 2, 3, 4, 5]]  
Average of the array = 3  
Maximum - 5  
Minimum - 1  
[[2, 4]]  
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> █
```

## QUESTION 4

```
import java.util.*;  
  
class Member  
{  
    public String name,address;  
    protected int mobile,age,salary;  
  
    Member()  
    {  
        Scanner inp =new Scanner(System.in);  
        System.out.print("Name = ");  
        this.name=inp.next();  
        System.out.print("Age and mobile number = ");
```

```

        this.age=inp.nextInt();
        this.mobile=inp.nextInt();
        System.out.print("Salary = ");
        this.salary=inp.nextInt();
        System.out.print("Address = ");
        this.address=inp.next();
    }

    void display()
    {
        System.out.println("Name = "+name+"\nSalary = "+salary);
    }
}

class Employee extends Member
{
    String spec,dep;
    public Employee(String spec,String dep){
        this.spec=spec;
        this.dep=dep;
    }
    void Assign()
    {
        //Member obj=new Member();
        System.out.println("\n\nEmployee Details -----> ");
        display();
        //super.display();
        System.out.println("Department = "+dep);
        System.out.println("Specialization = "+spec);

    }
}

class Manager extends Member
{
    String spec,dep;

```

```

    public Manager(String spec,String dep){
        this.spec=spec;
        this.dep=dep;
    }

    void Assign()
    {
        //Member obj=new Member();
        System.out.println("\n\nManager Details ----->
");
        display();
        System.out.println("Department = "+dep);
        System.out.println("Specialization = "+spec);
    }
}

public class Salary_Inherit {

    public static void main(String[] args) {
        String spec,dep;

        Scanner inp=new Scanner(System.in);
        //Emp
        System.out.print("Enter the Employee Specialization and
department = ");
        spec=inp.nextLine();
        dep=inp.nextLine();

        Employee emp=new Employee(spec,dep);
        emp.Assign();

        //manager
        System.out.print("Enter the Manager Specialization and
department = ");
        spec=inp.next();

```

```

        dep=inp.next();

        Manager man=new Manager(spec,dep);
        man.Assign();
    }

}

```

## OUTPUT:

```

PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> h;; cd 'h:\MIT-works\SEM
5\WEB TECH theory\Assignment 2'; & 'C:\Program Files\Java\jdk-17.0.1\bin\jav
a.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData
a\Roaming\Code\User\workspaceStorage\f01ef487451e00992e405bb61b95afa7\redhat.
java\jdt_ws\Assignment 2_869ebb49\bin' 'Salary_Inherit'
Enter the Employee Specialization and department = ML
IT
Name = Rahul
Age and mobile number = 18 12346
Salary = 10000
Address = bsijbfsdfsdf

Employee Details ----->
Name = Rahul
Salary = 10000
Department = IT
Specialization = ML
Enter the Manager Specialization and department = HR IT
Name = Sam
Age and mobile number = 35 23654
Salary = 50000
Address = jhvhgvhg

Manager Details ----->
Name = Sam
Salary = 50000
Department = IT
Specialization = HR
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> 

```

## QUESTION :5

```
import java.util.*;

class Member {
    public String name, address;
    protected int mobile, age, salary;

    Member() {
        Scanner inp = new Scanner(System.in);
        System.out.print("Name = ");
        this.name = inp.next();
        System.out.print("Age and mobile number = ");
        this.age = inp.nextInt();
        this.mobile = inp.nextInt();
        System.out.print("Salary = ");
        this.salary = inp.nextInt();
        System.out.print("Address = ");
        this.address = inp.next();
    }

    void display() {
        System.out.println("Name = " + name + "\nSalary = "
+ salary);
    }
}

class Employee extends Member {
    String spec, dep;

    public Employee(String spec, String dep) {
        this.spec = spec;
        this.dep = dep;
    }

    void Assign() {
        // Member obj=new Member();
    }
}
```

```

        System.out.println("\n\nEmployee Details ----->
");

        super.display();
        System.out.println("Department = " + dep);
        System.out.println("Specialization = " + spec);

    }

}

class Manager extends Member {
    String spec, dep;

    public Manager(String spec, String dep) {
        this.spec = spec;
        this.dep = dep;
    }

    void Assign() {
        // Member obj=new Member();
        System.out.println("\n\nManager Details -----
> ");

        super.display();
        System.out.println("Department = " + dep);
        System.out.println("Specialization = " + spec);
    }

}

public class Salary_super {

    public static void main(String[] args) {
        String spec, dep;

        Scanner inp = new Scanner(System.in);
        // Emp
        System.out.print("Enter the Employee Specialization
and department = ");
        spec = inp.nextLine();

```



```

        dep = inp.nextLine();

        Employee emp = new Employee(spec, dep);
        emp.Assign();

        // manager
        System.out.print("Enter the Manager Specialization
and department = ");
        spec = inp.next();
        dep = inp.next();

        Manager man = new Manager(spec, dep);
        man.Assign();
    }
}

```

## OUTPUT:

```

PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> h;; cd 'h:\MIT-works\
5\WEB TECH theory\Assignment 2'; & 'C:\Program Files\Java\jdk-17.0.1\bin\j
a.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData\Roaming\Code\User\workspaceStorage\f01ef487451e00992e405bb61b95afa7\redha
java\jdt ws\Assignment 2_869ebb49\bin' 'Salary Inherit'
Enter the Employee Specialization and department = ML
IT
Name = Rahul
Age and mobile number = 18 12346
Salary = 10000
Address = bsijbfsdfsdf

Employee Details ----->
Name = Rahul
Salary = 10000
Department = IT
Specialization = ML
Enter the Manager Specialization and department = HR IT
Name = Sam
Age and mobile number = 35 23654
Salary = 50000
Address = jhvhgvhg

Manager Details ----->
Name = Sam
Salary = 50000
Department = IT
Specialization = HR
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2>

```

## QUESTION 6

```
import java.util.*;

class Train_journey
{
    static String start,terminating;
    int journey_time;

    void Set_start(String start){ this.start=start;}
    void Get_start(String
termination){this.terminating=termination;}
    void Get_journey_time()
    {
        Scanner inp=new Scanner(System.in);
        System.out.print("Enter the total journey time = ");
        this.journey_time=inp.nextInt();
    }
}

class Freight extends Train_journey
{
    final int capacity=200;int carriages;
    boolean hazard;
    Scanner inp=new Scanner(System.in);

    void getParent()
    {
        String start,end;
        System.out.print("Enter the starting point - ");
        start=inp.nextLine();
        System.out.print("Enter the ending point - ");
        end=inp.nextLine();

        super.Set_start(start);
        super.Get_start(end);
    }
}
```

```

        super.Get_journey_time();

    }

    void set_hazard()
    {
        System.out.print("Is it hazardous? true/false= ");
        this.hazard=inp.nextBoolean();
        if(hazard==true) System.out.println("Hazardous materials
are not allowed\n");
    }

    void get_capacity()
    {
        System.out.print("capacity = "+capacity+" tonnes");
    }
}

class Passenger extends Train_journey
{
    int first_class,carriages;
    boolean catering;
    Scanner inp=new Scanner(System.in);

    void get_first_class()
    {
        System.out.print("Enter the first class number = ");
        this.first_class=inp.nextInt();
    }

    void addCarraiges(int x)
    {
        if(carriages<x) System.out.println("You can't carry more
than the capacity\n");
        this.carriages=x;
    }
}

```

```

        void In_service()
        {
            System.out.print("Whether the catering services are
available true/false");
            this.catering=inp.nextBoolean();
        }
    }

public class Train {
    public static void main(String[] args)
    {
        Scanner inp=new Scanner(System.in);
        Freight frt=new Freight();
        Passenger psr=new Passenger();

        frt.getParent();

        System.out.println("\nFREIGHT DETIALS->\n");
        frt.set_hazard();
        frt.get_capacity();

        System.out.println("\n\nPASSENGER DETIALS->\n");
        psr.get_first_class();
        System.out.print("Enter the total number of carriages =
");
        psr.addCarraiges(inp.nextInt());
        psr.In_service();
    }
}

```

**OUTPUT:**

```

PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> & 'C:\Program Files\Java\jdk-1
7.0.1\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN
\AppData\Roaming\Code\User\workspaceStorage\f01ef487451e00992e405bb61b95afa7\redhat
.java\jdt_ws\Assignment 2_869ebb49\bin' 'Train'
Enter the starting point - Erode
Enter the ending point - Chennai
Enter the total journey time = 6

FREIGHT DETIALS->

Is it hazardous? true/false= true
Hazardous materials are not allowed

capacity = 200 tonnes

PASSENGER DETIALS->

Enter the first class number = 1
Enter the total number of carriages = 2
You can't carry more than the capacity

Whether the catering services are available true/false=true
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> █

```

## QUESTION :7

```

import java.util.*;

interface Payable
{
    public double getPaymentAmount(double wage,double
hours,double weeklysals,double grosssales,double comm);
}

class Employee implements Payable
{
    String f_name,l_name,socialSecuritynumber;

    public double getPaymentAmount(double wage,double
hours,double weeklysals,double grosssales,double comm)
    {
        double t1=wage*hours;

```

```

        double t2= grosssales*comm;

        return t1+t2+weeklysalsal;
    }

    void disp()
    {
        System.out.println("Name = "+f_name+" "+l_name);
        System.out.println("Social Security number = "+socialSecuritynumber);
    }
}

class Invoice implements Payable
{
    String PartNo,partDescription;
    int qty;
    double pricePeritem;
    public double getPaymentAmount(double wage,double hours,double weeklysalsal,double grosssales,double comm)
    {
        double t1=wage*hours;
        double t2= grosssales*comm;

        return t1+t2+weeklysalsal;
    }

    void disp()
    {
        System.out.println("Quantity = "+qty);
        System.out.println("Price per item = "+pricePeritem);
    }
}

class CommisionEmployee extends Employee

```

```

{
    double grossSales,commisionRATE;
}

class HourlyEmployee extends Employee
{
    double wage, hours;
}

class BaseplusCommision extends CommisionEmployee
{
    double baseSalary;
}

public class Salary {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        double wage, hours, weeklysal, grosssales, comm, basepay;
        Scanner inp=new Scanner(System.in);
        Employee obj1=new Employee();
        Invoice obj2=new Invoice();
        System.out.print("Enter the first name and lastname = 
");

        obj1.f_name=inp.nextLine();
        obj1.l_name=inp.nextLine();
        System.out.print("Enter the social security number = ");
        obj1.socialSecuritynumber=inp.nextLine();

        System.out.print("Quantity and price per item = ");
        obj2.qty=inp.nextInt();
        obj2.pricePeritem=inp.nextDouble();

        System.out.print("Enter the wage = ");

```

```

        wage=inp.nextDouble();
        System.out.print("Enter the hours = ");
        hours=inp.nextDouble();
        System.out.print("Enter the weeklysel = ");
        weeklysel=inp.nextDouble();
        System.out.print("Enter the grosssales = ");
        grosssales=inp.nextDouble();
        System.out.print("Enter the commision rate = ");
        comm=inp.nextDouble();
        System.out.print("Enter the basepay = ");
        basepay=inp.nextDouble();

        obj1.display();obj2.display();
        System.out.println("Total salary -
"+(obj1.getPaymentAmount(wage, hours, weeklysel, grosssales,
comm)+basepay));
    }

}

```

## OUTPUT:

```

PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> & 'C:\Program Files\Java\jdk-17.0.1\bin\java.exe' '-XX:+S
howCodeDetailsInExceptionMessages' '-cp' 'C:\Users\ADMIN\AppData\Roaming\Code\User\workspaceStorage\f01ef48745
1e00992e405bb61b95afa7\redhat.java\jdt_ws\jdt.ls-java-project\bin' 'Salary'
Enter the first name and lastname = Rahul
Prasanth
Enter the social security number = 123
Quantity and price per item = 10 500
Enter the wage = 200
Enter the hours = 1
Enter the weeklysel = 5000
Enter the grosssales = 4000
Enter the commision rate = 0.1
Enter the basepay = 10000
Name = Rahul Prasanth
Social Security number = 123
Quantity = 10
Price per item - 500.0
Total salary - 15600.0
PS H:\MIT-works\SEM 5\WEB TECH theory\Assignment 2> █

```