Q1 Wap to print the unique Number

```
import java.io.IOException;
import java.util.*;
import java.io.*;
public class UniqueNumber {

    static boolean IsUnique(int n)
    {
        int c=0;
        for(int i=n;i>0;i=i/10)
        {
            c++;
        }
        int a[]=new int[c];
        int j=0;
        for(int i=n;i>0;i=i/10)
        {
            int d=i%10;
            a[j]=d;
            j++;
        }
        int flag=0;
        for(int l=0;l<c;l++)
        {
            for(int k=l+1;k<c;k++)
            {
                if(a[l]==a[k])
                {
                    return false;
                }

            }
        }

        return true;
    }

    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter A number");
        int n=sc.nextInt();

       boolean ch= IsUnique(n);
       System.out.println(ch);
    }
```

```
}
```

Output:

Enter a Number

123

true

Q2. Wap to print a palindrome number

```
import java.io.*;

public class palindrome {

    public static void main(String args[])throws IOException
    {
        BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
        System.out.println("Enter the number");
        int n= Integer.parseInt(br.readLine());
        boolean res = ispalin(n);
        if(res==true)
        System.out.println("Number is palindrome");

    }
   public static boolean ispalin(int n)
    {
        int rev=0,d;
        for(int i=n;i>0;i=i/10)
        {
            d=i%10;
            rev=(rev*10)+d;
        }
        if(rev==n)
        {
            return true;
        }
        return false;

    }

}
```

Output:

Enter the number: 121

Number is palindrome

Q3 Wap to print the magic number

```
import java.io.*;

public class magicNumber {
    public static void main(String args[])throws IOException
    {
        BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
        // BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
        System.out.println("Enter a number");
        int n=Integer.parseInt(br.readLine());
        System.out.println("number is "+n);

        if(n<9)
        {
            if(n==1)
            System.out.println("magic number");
            else
            System.out.println("not a magic number");
        }

        int sum=0;
        while(n>9)
        {
            sum=0;
            for(int i=n;i>0;i=i/10)
            {
                int d=i%10;
                sum=sum+d;
            }
            n=sum;
        }

        if(sum==1)
        {
            System.out.println("magic number found");
        }
        else{
            System.out.println("magic number not found");
        }

    }
}
```

Output:

Enter a number:

82

magic number found

Q.4 Wap to check Prime Number

```
import java.io.BufferedReader;
import java.io.InputStreamReader;

public class primenumber {

    public static void main(String args[])
    {
        BufferedReader br=new BufferedReader(new
InputStreamReader(Sytem.in));

        System.out.println("Enter a number");
        int n=Integer.parseInt(br.readLine());

        int ct=0;
        for(int i=1;i<=n;i++)
        {
            if(n%i==0)
            ct++;
        }
        if(ct==2)
        {
            System.out.println("The number is prime");
        }

    }

}
```

Q.5 Delete the element from a specific position

```
import java.io.*;
class Deletion
{
    public static void main(String Args[]) throws IOException
    {
        BufferedReader br= new BufferedReader(new
InputStreamReader(System.in));
        System.out.print("Enter the size of the array : ");
```

```
        int a[]=new int[n+1];
        System.out.print("Enter the elements :\n");
        for (int i=0;i<n;i++)
        {
            a[i]=Integer.parseInt(br.readLine());
        }
        System.out.print("Original Array : ");
        for(int i=0;i<n;i++)
        {
            System.out.print("\n"+a[i]);
        }
        System.out.print("\nEnter the position to delete the element :
");
        int pos = Integer.parseInt(br.readLine());
        if(pos<=0||pos>=n+1)
        {
            System.out.print("Invalid Position...!!!");
        }
        else
        {
            for(int i=pos-1;i<=n-1;i++)
            {
                a[i]=a[i+1];
            }
            System.out.print("New Array : ");
            for(int i=0;i<n-1;i++)
            {
                System.out.print("\n"+a[i]);
            }
        }
    }
}
```

Q.6 Insert an element at a specific position in java

```
import java.io.*;
class Insertion
{
    public static void main(String args[])throws IOException
    {
        BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
        System.out.print("Enter the length of the Array : ");
        int n=Integer.parseInt(br.readLine());
        int a[]=new int[n+1];
        System.out.print("Enter the elements in the Array : \n");
        for (int i=0; i<n;i++)
```

```
        {
            a[i]=Integer.parseInt(br.readLine());
        }
        System.out.print("Original Array : ");
        for(int i=0;i<n;i++)
        {
            System.out.print("\n"+a[i]);
        }
        System.out.print("\nEnter the position to insert the new element
: ");
        int pos=Integer.parseInt(br.readLine());
        if(pos<=0||pos>n+1)
        {
            System.out.print("Invalid position...!!!");
        }
        else
        {
            System.out.print("Enter the element to be insrted : ");
            int num=Integer.parseInt(br.readLine());
            for(int i=n-1;i>=pos-1;i--)
            {
                a[i+1]=a[i];
            }
            a[pos-1]=num;
            System.out.print("New array : ");
            for(int i=0;i<n;i++)
            {
                System.out.print("\n"+a[i]);
            }
            System.out.print("\n"+a[n]);
        }
    }
}
```

OUTPUT:

Enter the length of the Array : 4

Enter the elements in the Array :

1

2

3

4

Original Array :

1

2

3

4

Enter the position to insert the new element : 3

Enter the element to be insrted : 89

New array :

1

2

89

3

4

Q.7 Wap to print the smallest row and columns

```
import java.io.*;
class Insertion
{
    public static void main(String args[])throws IOException
    {
        BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
        System.out.print("Enter the length of the Array : ");
        int n=Integer.parseInt(br.readLine());
        int a[]=new int[n+1];
        System.out.print("Enter the elements in the Array : \n");
        for (int i=0; i<n;i++)
        {
            a[i]=Integer.parseInt(br.readLine());
        }
        System.out.print("Original Array : ");
        for(int i=0;i<n;i++)
        {
            System.out.print("\n"+a[i]);
        }
        System.out.print("\nEnter the position to insert the new element
: ");
        int pos=Integer.parseInt(br.readLine());
        if(pos<=0||pos>n+1)
        {
            System.out.print("Invalid position...!!!");
        }
        else
        {
            System.out.print("Enter the element to be insrted : ");
            int num=Integer.parseInt(br.readLine());
```

```
            for(int i=n-1;i>=pos-1;i--)
            {
                a[i+1]=a[i];
            }
            a[pos-1]=num;
            System.out.print("New array : ");
            for(int i=0;i<n;i++)
            {
                System.out.print("\n"+a[i]);
            }
            System.out.print("\n"+a[n]);
        }
    }
}
```

```
Enter the size of rows and columns: 3
Enter the elements :
1
2
3
4
5
6
7
8
9
Matrix:
1       2       3

4       5       6

7       8       9

Minimum in Row1:1        Minimum in Column1:1
Minimum in Row2:4        Minimum in Column2:2
Minimum in Row3:7        Minimum in Column3:3
```

Q.8 Wap To perform Binary search

```
public class Binarysearch {

    public static void binarySearch(int arr[], int first, int last, int
key) {
        int mid = (first + last) / 2;
        while (first <= last) {
            if (arr[mid] < key) {
                first = mid + 1;
            } else if (arr[mid] == key) {
```

```
                System.out.println("Element is found at index: " + mid);
                break;
            } else {
                last = mid - 1;
            }
            mid = (first + last) / 2;
        }
        if (first > last) {
            System.out.println("Element is not found!");
        }
    }

    public static void main(String args[]) {
        int arr[] = { 10, 20, 30, 40, 50 };
        int key = 30;
        int last = arr.length - 1;
        binarySearch(arr, 0, last, key);
    }
}
```

Q.9 Wap to show the duplicates from an array

```
import java.io.*;
class Duplicate
{
    public static void main(String args[])throws IOException
    {
        BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
        System.out.print("Enter the length of the First Array : ");
        int n=Integer.parseInt(br.readLine());
        int a[]=new int[n+1];
        System.out.print("Enter the elements in the Array : \n");
        for (int i=0; i<n;i++)
        {
            a[i]=Integer.parseInt(br.readLine());
        }
        /*System.out.print("First Array : ");
        for(int i=0;i<n;i++)
        {
            System.out.print("\n"+a[i]);
        }*/
        System.out.print("\nEnter the length of the Second Array : ");
        int m=Integer.parseInt(br.readLine());
        int b[]=new int[m+1];
        System.out.print("Enter the elements in the Array : \n");
        for (int i=0; i<m;i++)
```

```
        {
            b[i]=Integer.parseInt(br.readLine());
        }
        /*System.out.print("Second Array : ");
        for(int i=0;i<m;i++)
        {
            System.out.print("\n"+b[i]);
                }*/
        System.out.print("\nDuplicate elements are:");
        for(int i=0;i<n;i++)
        {
            for(int j=0;j<m;j++)
            {
                if(a[i]==b[j])
                {
                    System.out.print("\n"+b[j]);
                }
            }
        }
    }
}
```

Output:

Enter the length of the First Array : 4

Enter the elements in the Array :

1

2

3

4

Enter the length of the Second Array : 4

Enter the elements in the Array :

1

1

1

2

Duplicate elements are:

1

1

1

2

Q.10 Wap to remove the duplicates from an array

```
import java.util.Scanner;

import java.util.*;
public class RemoveDuplicates {

  static  void RemoveDuplicate(int a[])
    {
        HashSet<Integer> set=new HashSet<>();
        for(int i=0;i<a.length;i++)
        {
            set.add(a[i]);
        }

        System.out.println(set);

    }
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);
        // System.out.println("Enter the length");
        // int n=sc.nextInt();
        int a[]={1,2,3,3,2,1,5,34,2};


        RemoveDuplicate(a);
    }
}
```

Output:

[1, 2, 34, 3, 5]

Q.11 Wap to print the piglatin word

```
import java.util.*;
import java.io.*;
public class piglatinWrd {

    public static void main(String args[])throws IOException
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the word");
        String s=sc.next();
        s=s.toUpperCase();
        String s2=new String();
```

```
        int l=s.length();
        for(int i=2;i<l;i++)
        {
            s2=s2+s.charAt(i);
        }
        s2=s2+s.charAt(0)+s.charAt(1);

        s2=s2+"AY";

        System.out.println(s2);

    }


}
```

OUTPUT:

Enter the word

TROUBLE

OUBLETRAY

Q.12 WAP To print the multiplication of matrices

```
public class MultiplicationOfMatrix{
    public static void main(String args[]){
    //creating two matrices
    int a[][]={{1,1,1},{2,2,2},{3,3,3}};
    int b[][]={{1,1,1},{2,2,2},{3,3,3}};

    //creating another matrix to store the multiplication of two
matrices
    int c[][]=new int[3][3];  //3 rows and 3 columns

    //multiplying and printing multiplication of 2 matrices
    for(int i=0;i<3;i++){
    for(int j=0;j<3;j++){
    c[i][j]=0;
    for(int k=0;k<3;k++)
    {
    c[i][j]+=a[i][k]*b[k][j];
    }//end of k loop
    System.out.print(c[i][j]+" ");  //printing matrix element
    }//end of j loop
    System.out.println();//new line
    }
    }}
```

OUTPUT:

6 6 6

12 12 12

18 18 18

Q.13 WAP To print the sum of diagonal of a dd matrix

```
import java.io.*;
public class sumofDiagonal {

    public static void main(String args[])throws IOException
    {
        int a[][]={{1,2,3},{4,5,6},{7,8,9}};

        int sumR=0;
        int sumL=0;
        for(int i=0;i<3;i++)
        {
            sumR=sumR+a[i][i];
        }
        for(int j=0;j<3;j++)
        {
            sumL=sumL+a[j][2-j];
        }

        System.out.println("The sum is "+(sumL+sumR));
    }

}
```

OUTPUT:

The sum is 30

Q.14 Wap to print the pascal's triangle

```
import java.io.*;
public class pascalTriangle {
 // Print Pascal's Triangle in Java

    public int factorial(int i)
    {
        if (i == 0)
            return 1;
        return i * factorial(i - 1);
    }
    public static void main(String[] args)
    {
        int n = 4, i, j;
```

```
        pascalTriangle g = new pascalTriangle();
        for (i = 0; i <= n; i++) {
            for (j = 0; j <= n - i; j++) {

                // for left spacing
                System.out.print(" ");
            }
            for (j = 0; j <= i; j++) {

                // nCr formula
                System.out.print(
                    " "
                    + g.factorial(i)
                        / (g.factorial(i - j)
                            * g.factorial(j)));
            }

            // for newline
            System.out.println();
        }
    }
}
```

Output:

```
   1
  1 1
 1 2 1
1 3 3 1
1 4 6 4 1
```

Q.15 Wap to print the spiral matrix

```
public class spiralMatrix {
        static final int R = 3 ;
    static final int C = 6;

    // Function to form the spiral matrix
    static void formSpiralMatrix(int arr[], int mat[][])
    {
        int top = 0,
            bottom = R - 1,
            left = 0,
            right = C - 1;

        int index = 0;
```

```
    while (true)
    {
        if (left > right)
            break;

        // print top row
        for (int i = left; i <= right; i++)
            mat[top][i] = arr[index++];
        top++;

        if (top > bottom)
            break;

        // print right column
        for (int i = top; i <= bottom; i++)
            mat[i][right] = arr[index++];
        right--;

        if (left > right)
            break;

        // print bottom row
        for (int i = right; i >= left; i--)
            mat[bottom][i] = arr[index++];
        bottom--;

        if (top > bottom)
            break;

        // print left column
        for (int i = bottom; i >= top; i--)
            mat[i][left] = arr[index++];
        left++;
    }
}

// Function to print the spiral matrix
static void printSpiralMatrix(int mat[][])
{
    for (int i = 0; i < R; i++)
    {
        for (int j = 0; j < C; j++)
            System.out.print(mat[i][j] + " ");
        System.out.println();
    }
}
```

```
    // Driver code
    public static void main (String[] args)
    {
        int arr[] = { 1, 2, 3, 4, 5, 6,
                      7, 8, 9, 10, 11, 12,
                      13, 14, 15, 16, 17, 18 };

        int mat[][] = new int[R][C];

        formSpiralMatrix(arr, mat);
        printSpiralMatrix(mat);
    }
}
```

Output:

1 2 3 4 5 6

14 15 16 17 18 7

13 12 11 10 9 8

Q.16 Wap to print the name in following formats

Amit Kumar Singh→A.K.S.

Amit Kumar Singh→A.K.Singh.

```
import java.util.*;
public class Assignment4 {

    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the name");
        String s=sc.nextLine();

        s=" "+s;

        for(int i=0;i<s.length();i++)
        {
            if(s.charAt(i)==32)//value of space is 32
            {
                System.out.print(s.charAt(i+1)+".");
            }
        }

        int lindex=0;
        for(int j=s.length()-1;j>=0;j--)
```

```
        {
            if(s.charAt(j)==32)
            {
                lindex=j;
                break;
            }
        }
        System.out.println();

        for(int k=0;k<lindex;k++)
        {
            if(s.charAt(k)==32)
            {
                System.out.print(s.charAt(k+1)+".");
            }
        }

        System.out.print(s.substring(lindex+1));

    }

}
```

Output:

Enter the name

Amit kumar singh

A.k.s.

A.k.singh

Q.17 Wap a program to generate an OTP in java

```
import java.util.Random;

public class OTPgeneration {

    static char[] Generate(int len)
    {
        System.out.println("Generating otp ....");
        System.out.println("Your otp is:");

        String numbers="0123456789";
        char otp[]=new char[len];
        Random rm=new Random();
        for(int i=0;i<len;i++)
        {
            otp[i]=numbers.charAt(rm.nextInt(numbers.length()));
        }
```

```
        return otp;
        // Returns a pseudorandom, uniformly distributed int value
between 0 (inclusive) and the specified value (exclusive), drawn from
this random number generator's sequence
    }
    public static void main(String args[])
    {
        int len=5;
        System.out.println(Generate(len));

    }

}
```

OUTPUT:

Generating otp ....

Your otp is:

35840

Q.18 Wap to match an otp using thread class

```
import java.util.*;
class OTPrec extends Thread
{
    String otp;
    public void generate()
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the otp");
        otp=sc.next();
    }

  public void run()
    {
        Scanner sc=new Scanner(System.in);
        try
        {
        System.out.println("Enter the otp again in 10s");
        Thread.sleep(10000);
        String s1=sc.next();
        if(s1.equals(otp))
        {
            System.out.println("OTP MATCHED ❄❄✈");
            System.out.println("Logging in");
        }
        else{
            System.out.println("String cannot be matched");
        }
```

```
        }
        catch(InterruptedException e)
        {
            System.out.println(e);
        }
    }
}
public class OTP {
 public static void main(String args[])
 {
     OTPrec r=new OTPrec();
     r.generate();
     r.start();
    //  r.run();

    //  r.otpChecker();

 }
}
```

Output:

Enter the otp

hello

Enter the otp again in 10s

hello

OTP MATCHED ????????â??

Logging in

Q.19 Wap to create a library system

With fine,borrow days number of copies etc.

```
abstract class student {
    String studname,studid,studdob,phone;
  abstract void display();
}
class book extends student{
    String title,ISSN,auth_name;int no_of_copies;
    double fine;
    int  borrow_days;
    int return_days;
    String studname,studid,studdob,phone;
    book(String title,String ISSN,String auth_name,int no_of_copies,int
borrow_days,int return_days)
```

```
    {
        this.title=title;
        this.ISSN=ISSN;
        this.borrow_days=borrow_days;
        this.auth_name=auth_name;
        this.no_of_copies=no_of_copies;
        this.return_days=return_days;
    }
    public int getstudent( String studname,String studid,String
studdob,String phone)
    {
        this.studname=studname;
        this.studid=studid;
        this.studdob=studdob;
        this.phone=phone;
        return 0;
    }
    public void calculate()
    {
        if(borrow_days >15)
        {
            fine=1*(borrow_days -15);
        }

        if(no_of_copies > 2)
        {
            System.out.println("You are allowed only 2 books");
            System.exit(0);
        }

    }
    public void display()
    {
        System.out.println(title);
        System.out.println(ISSN);
        System.out.println(auth_name);
        System.out.println(no_of_copies);
        System.out.println("The fine is  "+fine);
        System.out.println(borrow_days);
    }
}
public class readingHabit extends student{

    public void display()
    {
        System.out.println("generating output.....");
    }
    public static void main(String args[])
```

```
    {

        book bk=new book("ABC","2113","AMIT",2,100,23);
        bk.getstudent("Star bawa", "32440", "1/3/93", "982134123");
        bk.calculate();
        bk.display();


    }
}
```

Output:

ABC

2113

AMIT

2

The fine is 85.0

100

Q.20 Wap to create the bank With savings class and current class

```
import java.io.*;
import java.util.*;

 class detail{
    String name,id,Address,AdhaarInfo;

    void getdetail()throws IOException
    {
        System.out.println("Please do not fill passwords in the details
!");
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the name");
        name=sc.nextLine();
        System.out.println("Enter the id");
        id=sc.nextLine();
        System.out.println("Enter the Address");
        Address=sc.nextLine();
        System.out.println("Enter the Adhaar INfo");
        AdhaarInfo=sc.nextLine();
        // sc.close();
    }
//    abstract void display();
}

class savings extends detail {
    float reserves;
```

```
    float interest;
    int time;

    savings()throws IOException
    {
        System.out.println("Hi, welcome to bank of India please enter
your id");
        InputStreamReader ir=new InputStreamReader(System.in);
        BufferedReader br=new BufferedReader(ir);
        System.out.println("Enter your savings");
        reserves=Float.parseFloat(br.readLine());
        System.out.println("Enter the rate of interest you want");//must
be less than 8%
        interest=Float.parseFloat(br.readLine());
        System.out.println("Enter the time in years since you opened your
account");
        time=Integer.parseInt(br.readLine());

        System.out.println("Do you wish to withdraw some money ? press y
if yes else if press E to exit");
        System.out.println("if you wish to deposit then press D");
        char ch= (char)br.read();
        if(ch=='Y')
        {
          float d=withdraw();
          reserves=reserves-d;
        }
        else if(ch=='D')
        {
            float d=deposit();
            reserves=reserves+d;
        }
        else{
            System.out.println("Thank you for banking with us..");
            System.exit(0);
        }


    }
    public float getInterest()
    {
        float amount=(reserves*interest*time)/100;
        return amount;

    }
    static float withdraw()throws IOException
    {

        System.out.println("Enter the amount you want to withdraw");
```

```
        InputStreamReader ir=new InputStreamReader(System.in);
        BufferedReader br=new BufferedReader(ir);
        float amt=Float.parseFloat(br.readLine());
        return amt;
    }
    public float deposit()throws IOException
    {
        System.out.println("Enter the amount you want to deposit");
        InputStreamReader ir=new InputStreamReader(System.in);
        BufferedReader br=new BufferedReader(ir);
        float amt=Float.parseFloat(br.readLine());
        return amt;
    }
    void display()
    {
        System.out.println("Current Balance is  "+reserves);
        System.out.println("The name of the holder is "+name);
        // System.out.println("THe addhaar card number is "+AdhaarInfo);
        System.out.println("THe id is  "+id);


    }
}
class currentaccount extends savings
{
    float reserves;
    currentaccount()throws IOException
    {
        System.out.println("Hi, welcome to bank of India please enter
your id");
        InputStreamReader ir=new InputStreamReader(System.in);
        BufferedReader br=new BufferedReader(ir);
        System.out.println("Enter your savings");
        reserves=Float.parseFloat(br.readLine());

        System.out.println("Do you wish to withdraw some money ? press y
if yes else if press E to exit");
        System.out.println("if you wish to deposit then press D");
        char ch= (char)br.read();
        if(ch=='Y')
        {
          float d=withdraw();
          reserves=reserves-d;
        }
        else if(ch=='D')
        {
            float d=deposit();
            reserves=reserves+d;
        }
```

```
        else{
            System.out.println("Thank you for banking with us..");
            System.exit(0);
        }


    }

}

public class Banknotes extends detail{

    public void display()
    {
        System.out.println("Generating output");
    }

    public static void main(String args[])throws IOException
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Hi, welcome to bank of India please enter
your id");
        detail d=new detail();
        d.getdetail();
        // String  id=sc.next();
        // new detail().getdetail();
        // detail.getdetail();
        // detail d=new detail();
        // d.getdetail();

        System.out.println("press 1 for savings account and 2 for current
account");
        int ch=sc.nextInt();
        switch(ch)
        {
            case 1:
            savings s=new savings();
            s.display();

            case 2:
            currentaccount c=new currentaccount();
            c.display();

        }
        System.out.println("Thank you bye bye ");
        sc.close();
    }

}
```

Output:

Hi, welcome to bank of India please enter your id

Please do not fill passwords in the details !

Enter the name

Star

Enter the id

720058

Enter the Address

kjsdf

Enter the Adhaar INfo

ssdfs

press 1 for savings account and 2 for current account

1

Hi, welcome to bank of India please enter your id

Enter your savings

720058

Enter the rate of interest you want

8.1

Enter the time in years since you opened your account

89

Do you wish to withdraw some money ? press y if yes else if press E to exit

if you wish to deposit then press D

E

Thank you for banking with us..

Q.21 Wap To print the hospital in java with patients and doctors with disease

```
import java.io.*;
import java.util.*;
import java.util.Calendar;
/* Hospital Management System Project in Java with Source Code PDF Visit
for more https://www.programmingwithbasics.com/ */
```

```
class staff
{
    String sid, sname, desg, sex;
    int salary;
    void new_staff()
    {
        Scanner input = new Scanner(System.in);
        System.out.print("id:-");
        sid = input.nextLine();
        System.out.print("name:-");
        sname = input.nextLine();
        System.out.print("desigination:-");
        desg = input.nextLine();
        System.out.print("sex:-");
        sex = input.nextLine();
        System.out.print("salary:-");
        salary = input.nextInt();
    }
    void staff_info()
    {
        System.out.println(sid + "\t" + sname + "\t" + sex + "\t" +
salary);
    }
}
class doctor
{
    String did, dname, specilist, appoint, doc_qual;
    int droom;
    void new_doctor()
    {
        Scanner input = new Scanner(System.in);
        System.out.print("id:-");
        did = input.nextLine();
        System.out.print("name:-");
        dname = input.nextLine();
        System.out.print("specilization:-");
        specilist = input.nextLine();
        System.out.print("work time:-");
        appoint = input.nextLine();
        System.out.print("qualification:-");
        doc_qual = input.nextLine();
        System.out.print("room no.:-");
        droom = input.nextInt();
    }
    void doctor_info()
    {
        System.out.println(did + "\t" + dname + "  \t" + specilist +
"     \t" + appoint + "    \t" + doc_qual + "       \t" + droom);
```

```
    }
}
class patient
{
    String pid, pname, disease, sex, admit_status;
    int age;
    void new_patient()
    {
        Scanner input = new Scanner(System.in);
        System.out.print("id:-");
        pid = input.nextLine();
        System.out.print("name:-");
        pname = input.nextLine();
        System.out.print("disease:-");
        disease = input.nextLine();
        System.out.print("sex:-");
        sex = input.nextLine();
        System.out.print("admit_status:-");
        admit_status = input.nextLine();
        System.out.print("age:-");
        age = input.nextInt();
    }
    void patient_info()
    {
        System.out.println(pid + "\t" + pname + " \t" + disease +
"     \t" + sex + "      \t" + admit_status + "\t" + age);
    }
}
class medical
{
    String med_name, med_comp, exp_date;
    int med_cost, count;
    void new_medi()
    {
        Scanner input = new Scanner(System.in);
        System.out.print("name:-");
        med_name = input.nextLine();
        System.out.print("comp:-");
        med_comp = input.nextLine();
        System.out.print("exp_date:-");
        exp_date = input.nextLine();
        System.out.print("cost:-");
        med_cost = input.nextInt();
        System.out.print("no of unit:-");
        count = input.nextInt();
    }
    void find_medi()
    {
```

```
        System.out.println(med_name + "  \t" + med_comp + "    \t" +
exp_date + "     \t" + med_cost);
    }
}
class lab
{
    String fecility;
    int lab_cost;
    void new_feci()
    {
        Scanner input = new Scanner(System.in);
        System.out.print("fecility:-");
        fecility = input.nextLine();
        System.out.print("cost:-");
        lab_cost = input.nextInt();
    }
    void feci_list()
    {
        System.out.println(fecility + "\t\t" + lab_cost);
    }
}
class fecility //Sorry Facility but do not change the name
{
    String fec_name;
    void add_feci()
    {
        Scanner input = new Scanner(System.in);
        System.out.print("fecility:-");
        fec_name = input.nextLine();
    }
    void show_feci()
    {
        System.out.println(fec_name);
    }
}
public class HospitalManagement
{
    public static void main(String args[])
    {
        String months[] = {
            "Jan",
            "Feb",
            "Mar",
            "Apr",
            "May",
            "Jun",
            "Jul",
            "Aug",
```

```
            "Sep",
            "Oct",
            "Nov",
            "Dec"
        };
        Calendar calendar = Calendar.getInstance();
        //System.out.println("----------------------------------------
-----------------------------------");
        int count1 = 4, count2 = 4, count3 = 4, count4 = 4, count5 = 4,
count6 = 4;



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



        System.out.println("            *** Welcome to Hospital
Management System Project in Java ***");
        System.out.println("----------------------------------------
-----------------------------------");
        System.out.print("Date: " + months[calendar.get(Calendar.MONTH)]
+ " " + calendar.get(Calendar.DATE) + " " + calendar.get(Calendar.YEAR));
        System.out.println("\t\t\t\t\t\tTime: " +
calendar.get(Calendar.HOUR) + ":" + calendar.get(Calendar.MINUTE) + ":" +
calendar.get(Calendar.SECOND));
        doctor[] d = new doctor[25];
        patient[] p = new patient[100];
        lab[] l = new lab[20];
        fecility[] f = new fecility[20];
        medical[] m = new medical[100];
        staff[] s = new staff[100];
        int i;
        for (i = 0; i < 25; i++)
            d[i] = new doctor();
        for (i = 0; i < 100; i++)
            p[i] = new patient();
        for (i = 0; i < 20; i++)
            l[i] = new lab();
        for (i = 0; i < 20; i++)
            f[i] = new fecility();
        for (i = 0; i < 100; i++)
            m[i] = new medical();
        for (i = 0; i < 100; i++)
            s[i] = new staff();

        d[0].did = "21";
```

```
d[0].dname = "Dr.Ghanendra";
d[0].specilist = "ENT";
d[0].appoint = "5-11AM";
d[0].doc_qual = "MBBS,MD";
d[0].droom = 17;
d[1].did = "32";
d[1].dname = "Dr.Vikram";
d[1].specilist = "Physician";
d[1].appoint = "10-3AM";
d[1].doc_qual = "MBBS,MD";
d[1].droom = 45;
d[2].did = "17";
d[2].dname = "Dr.Rekha";
d[2].specilist = "Surgeon";
d[2].appoint = "8-2AM";
d[2].doc_qual = "BDM";
d[2].droom = 8;
d[3].did = "33";
d[3].dname = "Dr.Pramod";
d[3].specilist = "Artho";
d[3].appoint = "10-4PM";
d[3].doc_qual = "MBBS,MS";
d[3].droom = 40;

p[0].pid = "12";
p[0].pname = "Pankaj";
p[0].disease = "Cancer";
p[0].sex = "Male";
p[0].admit_status = "y";
p[0].age = 30;
p[1].pid = "13";
p[1].pname = "Sumit";
p[1].disease = "Cold";
p[1].sex = "Male";
p[1].admit_status = "y";
p[1].age = 23;
p[2].pid = "14";
p[2].pname = "Alok";
p[2].disease = "Maleriya";
p[2].sex = "Male";
p[2].admit_status = "y";
p[2].age = 45;
p[3].pid = "15";
p[3].pname = "Ravi";
p[3].disease = "Diabetes";
p[3].sex = "Male";
p[3].admit_status = "y";
p[3].age = 25;
```

```
m[0].med_name = "Corex";
m[0].med_comp = "Cino pvt";
m[0].exp_date = "9-5-16";
m[0].med_cost = 55;
m[0].count = 8;
m[1].med_name = "Nytra";
m[1].med_comp = "Ace pvt";
m[1].exp_date = "4-4-15";
m[1].med_cost = 500;
m[1].count = 5;
m[2].med_name = "Brufa";
m[2].med_comp = "Reckitt";
m[2].exp_date = "12-7-17";
m[2].med_cost = 50;
m[2].count = 56;
m[3].med_name = "Pride";
m[3].med_comp = "DDF pvt";
m[3].exp_date = "12-4-12";
m[3].med_cost = 1100;
m[3].count = 100;

l[0].fecility = "X-ray     ";
l[0].lab_cost = 800;
l[1].fecility = "CT Scan   ";
l[1].lab_cost = 1200;
l[2].fecility = "OR Scan   ";
l[2].lab_cost = 500;
l[3].fecility = "Blood Bank";
l[3].lab_cost = 50;

f[0].fec_name = "Ambulance";
f[1].fec_name = "Admit Facility ";
f[2].fec_name = "Canteen";
f[3].fec_name = "Emergency";

s[0].sid = "22";
s[0].sname = "Prakash";
s[0].desg = "Worker";
s[0].sex = "Male";
s[0].salary = 5000;
s[1].sid = "23";
s[1].sname = "Komal";
s[1].desg = "Nurse";
s[1].sex = "Female";
s[1].salary = 2000;
s[2].sid = "24";
s[2].sname = "Raju";
```

```
        s[2].desg = "Worker";
        s[2].sex = "Male";
        s[2].salary = 5000;
        s[3].sid = "25";
        s[3].sname = "Rani";
        s[3].desg = "Nurse";
        s[3].sex = "Female";
        s[3].salary = 20000;

        Scanner input = new Scanner(System.in);
        int choice, j, c1, status = 1, s1 = 1, s2 = 1, s3 = 1, s4 = 1, s5
= 1, s6 = 1;
        while (status == 1)
        {
            System.out.println("\n                                    MAI
N MENU");
            System.out.println("-----------------------------------------
-----------------------------------------");



            System.out.println("1.Doctos  2.
Patients  3.Medicines  4.Laboratories  5. Facilities  6. Staff ");
            System.out.println("-----------------------------------------
-----------------------------------------");
            choice = input.nextInt();
            switch (choice)
            {
                case 1:
                    {
                        System.out.println("-----------------------------
-------------------------------------------------");
                        System.out.println("                        **DOCTO
R SECTION**");
                        System.out.println("-----------------------------
-------------------------------------------------");
                        s1 = 1;
                        while (s1 == 1)
                        {
                            System.out.println("1.Add New
Entry\n2.Existing Doctors List");
                            c1 = input.nextInt();
                            switch (c1)
                            {
                                case 1:
                                    {
                                        d[count1].new_doctor();count1++;
                                        break;
```

```
                                }
                            case 2:
                                {
                                    System.out.println("-------------
------------------------------------------------------------");
                                    System.out.println("id \t Name\t
Specilist \t Timing \t Qualification \t Room No.");



                                    System.out.println("-------------
------------------------------------------------------------");
                                    for (j = 0; j < count1; j++)
                                    {
                                        d[j].doctor_info();
                                    }
                                    break;
                                }
                            }
                            System.out.println("\nReturn to Back Press 1
and for Main Menu Press 0");
                            s1 = input.nextInt();
                        }
                        break;
                    }
                case 2:
                    {
                        System.out.println("-----------------------------
------------------------------------------------");
                        System.out.println("                      **PATIEN
T SECTION**");
                        System.out.println("-----------------------------
------------------------------------------------");
                        s2 = 1;
                        while (s2 == 1)
                        {
                            System.out.println("1.Add New
Entry\n2.Existing Patients List");
                            c1 = input.nextInt();
                            switch (c1)
                            {
                                case 1:
                                    {
                                        p[count2].new_patient();count2++;
                                        break;
                                    }
                                case 2:
                                    {
```

```
                                        System.out.println("----------
------------------------------------------------------------------");
                                        System.out.println("id \t Name \t
Disease \t Gender \t Admit Status \t Age");
                                        System.out.println("----------
------------------------------------------------------------------");
                                        for (j = 0; j < count2; j++) {
                                            p[j].patient_info();
                                        }
                                        break;
                                    }
                                }
                                System.out.println("\nReturn to Back Press 1
and for Main Menu Press 0");
                                s2 = input.nextInt();
                            }
                            break;
                        }
                    case 3:
                        {
                            s3 = 1;
                            System.out.println("-------------------------
------------------------------------------------");
                            System.out.println("                    **MEDICI
NE SECTION**");
                            System.out.println("-------------------------
------------------------------------------------");
                            while (s3 == 1)
                            {
                                System.out.println("1.Add New Entry\n2.
Existing Medicines List");
                                c1 = input.nextInt();
                                switch (c1)
                                {
                                    case 1:
                                        {
                                            m[count3].new_medi();count3++;
                                            break;
                                        }
                                    case 2:
                                        {
                                            System.out.println("----------
------------------------------------------------------------------");
                                            System.out.println("Name \t
Company \t Expiry Date \t Cost");
                                            System.out.println("----------
------------------------------------------------------------------");
                                            for (j = 0; j < count3; j++) {
```

```
                                        m[j].find_medi();
                                    }
                                    break;
                                }
                            }
                            System.out.println("\nReturn to Back Press 1
and for Main Menu Press 0");
                            s3 = input.nextInt();
                        }
                        break;
                    }
                case 4:
                    {
                        s4 = 1;
                        System.out.println("-------------------------
-------------------------------------------------");
                        System.out.println("                    **LABORAT
ORY SECTION**");
                        System.out.println("-------------------------
-------------------------------------------------");
                        while (s4 == 1)
                        {
                            System.out.println("1.Add New Entry
\n2.Existing Laboratories List");
                            c1 = input.nextInt();
                            switch (c1)
                            {
                                case 1:
                                    {
                                        l[count4].new_feci();count4++;
                                        break;
                                    }
                                case 2:
                                    {
                                        System.out.println("---------
-----------------------------------------------------------");
                                        System.out.println("Fecilities\t\
t Cost");
                                        System.out.println("---------
-----------------------------------------------------------");
                                        for (j = 0; j < count4; j++) {
                                            l[j].feci_list();
                                        }
                                        break;
                                    }
                            }
                            System.out.println("\nReturn to Back Press 1
and for Main Menu Press 0");
```

```
                        s4 = input.nextInt();
                    }
                    break;
                }
            case 5:
                {
                    s5 = 1;
                    System.out.println("-----------------------------
-------------------------------------------------");
                    System.out.println("          **HOSPITAL FACILITY
SECTION**");
                    System.out.println("-----------------------------
-------------------------------------------------");
                    while (s5 == 1)
                    {
                        System.out.println("1.Add New
Facility\n2.Existing Fecilities List");
                        c1 = input.nextInt();
                        switch (c1)
                        {
                            case 1:
                                {
                                    f[count5].add_feci();count5++;
                                    break;
                                }
                            case 2:
                                {
                                    System.out.println("-------------
-----------------------------------------------------------------");
                                    System.out.println("Hospital  Fac
ility are:");
                                    System.out.println("-------------
-----------------------------------------------------------------");
                                    for (j = 0; j < count5; j++) {
                                        f[j].show_feci();
                                    }
                                    break;
                                }
                        }
                        System.out.println("\nReturn to Back Press 1
and for Main Menu Press 0");
                        s5 = input.nextInt();
                    }
                    break;
                }
            case 6:
                {
                    s6 = 1;
```

```
                        System.out.println("-------------------------
-------------------------------------------------");
                        System.out.println("                        **STAF
F SECTION**");
                        System.out.println("-------------------------
-------------------------------------------------");
                        while (s6 == 1)
                        {
                            String a = "nurse", b = "worker", c =
"security";
                            System.out.println("1.Add New Entry
\n2.Existing Nurses List\n3.Existing Workers List \n4.Existing Security
List");
                            c1 = input.nextInt();
                            switch (c1)
                            {
                                case 1:
                                    {
                                        s[count6].new_staff();count6++;
                                        break;
                                    }
                                case 2:
                                    {
                                        System.out.println("----------
-----------------------------------------------------------");
                                        System.out.println("id \t Name \t
Gender \t Salary");
                                        System.out.println("----------
-----------------------------------------------------------");
                                        for (j = 0; j < count6; j++)
                                        {
                                            if (a.equals(s[j].desg))
                                                s[j].staff_info();
                                        }
                                        break;
                                    }
                                case 3:
                                    {
                                        System.out.println("----------
-----------------------------------------------------------");
                                        System.out.println("id \t Name \t
Gender \t Salary");
                                        System.out.println("----------
-----------------------------------------------------------");
                                        for (j = 0; j < count6; j++)
                                        {
                                            if (b.equals(s[j].desg))
                                                s[j].staff_info();
```

```
                                    }
                                    break;
                                }
                            case 4:
                                {
                                    System.out.println("-------------
------------------------------------------------------------------");
                                    System.out.println("id \t Name \t
Gender \t Salary");
                                    System.out.println("-------------
------------------------------------------------------------------");
                                    for (j = 0; j < count6; j++)
                                    {
                                        if (c.equals(s[j].desg))
                                            s[j].staff_info();
                                    }
                                    break;
                                }
                            }
                            System.out.println("\nReturn to Back Press 1
and for Main Menu Press 0");
                            s6 = input.nextInt();
                        }
                        break;
                    }
                default:
                    {
                        System.out.println(" You Have Enter Wrong
Choice!!!");
                    }
            }
            System.out.println("\nReturn to MAIN MENU Press 1");
            status = input.nextInt();
        }
    }
}
```

Output: