

Solution of Assignment 3

Question 1.

```
import java.util.*;

class Q1
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter your age: ");
        int age = sc.nextInt();
        if(age >= 18)
        {
            System.out.println("\nYou are eligible to cast your vote\n");
        }
    }
}
```

Question 2.

```
import java.util.*;

class Q2 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the amount of drinking water: ");
        int water = sc.nextInt();
        if(water >= 5000)
        {
            System.out.println("\nYes, Alice is following doctor's advice\n");
        }
        else
        {
            System.out.println("\nNo, Alice is not following doctor's advice\n");
        }
    }
}
```

```
    }  
}
```

Question 3.

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

```
class Q3  
{  
    public static void main(String[] args)  
    {  
        Scanner sc = new Scanner(System.in);  
        System.out.println("Enter 3 numbers: ");  
        int n1 = sc.nextInt();  
        int n2 = sc.nextInt();  
        int n3 = sc.nextInt();  
        if(n1<n2 && n2<n3)  
        {  
            System.out.println("\nIncreasing\");  
        }  
        else if(n1>n2 && n2>n1)  
        {  
            System.out.println("\nDecreasing\");  
        }  
        else  
        {  
            System.out.println("\nNeither Increasing nor decreasing\");  
        }  
    }  
}
```

Question 4.

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

```
public class Q4  
{  
    public static void main(String[] args)
```

```

{
    Scanner sc= new Scanner (System.in);
    System.out.println("Enter use number:");
    int user =sc.nextInt();
    int max= 9;int min=1;
    int com= (int)(Math.random()*(max-min+1)) +min;
    System.out.println("\nComputer guesses:\n" +N);
    System.out.println("\nYour guess:\n" +n);
    if (com==user)
    {
        System.out.println("\nYou got it right\n");
    }
    else if (Math.abs(com-user)==1)
    {
        System.out.println("\nAlmost got it\n");
    }
    else
    {
        System.out.println("\nYou got it wrong\n");
    }
}
}

```

Question 5.

```

import java.util.*;

public class Q5
{
    public static void main(String[] args)
    {
        Scanner sc= new Scanner (System.in);
        System.out.println("Input the year:");
        int year=sc.nextInt();
        if ((year%400==0)||((year%4==0 &&year%100!=0))
        {
            System.out.println(+y+ " is a leap year:true");
        }
        else
    }
}

```

```

        {
            System.out.println(+y+ " is a not leap year:false");
        }
    }
}

```

Question 6.

```

import java.util.*;

public class Q6
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner (System.in);
        System.out.println("Enter the unit: ");
        int unit = sc.nextInt();
        double amount= 0;
        if (unit <=50)
        {
            amount= unit *3;
        }
        else if (unit <=200)
        {
            amount=50*3+(unit -50)*4.80;
        }
        if(unit <=400)
        {
            amount=50*3+150*4.80+(unit -200)*5.80;
        }
        else
        {
            amount=50*3+150*4.80+200*5.80+(unit -400)*6.20;
        }
        System.out.println("Total amount is "+amount);
    }
}

```

Question 7.

```
import java.util.*;

public class Q7
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner (System.in);
        System.out.println("Enter the unit: ");
        int unit = sc.nextInt();
        System.out.println("Do you want to pay online(y/n):");
        char c = sc.next().charAt(0);
        System.out.println("No. of units consumed: "+unit);
        double amount= 0;
        double discount = 0.0;
        if (unit <=50)
        {
            amount= unit *3;
        }
        else if (unit <=200)
        {
            amount=50*3+(unit -50)*4.80;
        }
        if(unit <=400)
        {
            amount=50*3+150*4.80+(unit -200)*5.80;
        }
        else
        {
            amount=50*3+150*4.80+200*5.80+(unit -400)*6.20;
        }
        if (c=='y')
        {
            discount = amount*0.03;
        }
        System.out.println("Total amount is "+amount);
        System.out.println("Discount:"+discount);
        System.out.println("Amount payable: "+(amount-discount));
    }
}
```

```
}
```

Question 8.

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

```
public class Q8
```

```
{
```

```
    public static void main(String[] args)
```

```
    {
```

```
        Scanner sc= new Scanner (System.in);
```

```
        System.out.println("Enter x coordinate-");
```

```
        int x= sc.nextInt();
```

```
        System.out.println("Enter y coordinate-");
```

```
        int y= sc.nextInt();
```

```
        if (x==0 && y==0)
```

```
        {
```

```
            System.out.println("(" +x+" "+y+"")+" is at origin ");
```

```
        }
```

```
        else if (x==0)
```

```
        {
```

```
            System.out.println("(" +x+" "+y+"")+" is on y axis ");
```

```
        }
```

```
        else if (y==0)
```

```
        {
```

```
            System.out.println("(" +x+" "+y+"")+" is on x axis ");
```

```
        }
```

```
        else if (x>0 && y>0)
```

```
        {
```

```
            System.out.println("(" +x+" "+y+"")+"is in quadrant I");
```

```
        }
```

```
        else if (x<0 && y>0)
```

```
        {
```

```
            System.out.println("(" +x+" "+y+"")+" is in quadrant II");
```

```
        }
```

```
        else if (x<0 && y <0)
```

```
        {
```

```
            System.out.println("(" +x+" "+y+"")+" is in quadrant III");
```

```
        }
```

```

        else
        {
            System.out.println("(" + x + ", " + y + ") " + " is in quadrant IV");
        }
    }
}

```

Question 9.

```

import java.util.*;

public class Q9
{
    public static void main(String[] args)
    {
        Scanner sc= new Scanner (System.in);
        System.out.println("Enter value of first number: ");
        int a = sc.nextInt();
        System.out.println("Enter value of second number: ");
        int b = sc.nextInt();
        System.out.println("Enter value of third number: ");
        int c = sc.nextInt();
        if (a>b && a>c)
        {
            System.out.println("The largest number is " +a);
            if(b>c)
            {
                System.out.println("The second largest number is " +b);
            }
            else
            {
                System.out.println("The second largest number is " +c);
            }
        }
        else if (b>c && b>a)
        {
            System.out.println("The largest number is " +b);
            if(a>c)

```

```

        {
            System.out.println("The second largest number is " +a);
        }
        else
        {
            System.out.println("The second largest number is " +c);
        }
    }
    else
    {
        System.out.println("The largest number is " +c);
        if(a>b)
        {
            System.out.println("The second largest number is " +a);
        }
        else
        {
            System.out.println("The second largest number is " +b);
        }
    }
}
}
}

```

Question 10.

```

import java.util.*;

public class Q10
{
    public static void main(String[] args)
    {
        Scanner sc= new Scanner (System.in);
        System.out.println("Enter the marks-");
        int Marks = sc.nextInt();
        switch(Marks/10)
        {
            case 10 :
            case 9 :System.out.println("O"); break;
            case 8 :System.out.println("A"); break;

```



```

        case 7 :System.out.println("B"); break;
        case 6 :System.out.println("c"); break;
        case 5 :System.out.println("D"); break;
        case 4 :System.out.println("E"); break;
        default:System.out.println("Fail");
    }

}

}

```

Home Assignment

Question 1.

```

import java.util.*;

class Ass3_1
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Scissor, Rock, and Paper game between Computer and
You");

        System.out.println("Rule: 0 for Scissor, 1 for Rock, and 2 for Paper");
        int min = 0, max = 2;
        int com = (int)(Math.random()*(max-min+1))+min;
        System.out.println("Enter your choice: ");
        int user = sc.nextInt();
        String mess_com = "", mess_user = "";
        switch(com)
        {
            case 0: mess_com = "Scissor"; break;
            case 1: mess_com = "Rock"; break;
            default: mess_com = "Paper";
        }
        switch(user)
        {
            case 0: mess_user = "Scissor"; break;
            case 1: mess_user = "Rock"; break;
            default: mess_user = "Paper";
        }
    }
}

```

```

    }
    if(com == user)
    {
        System.out.println("The computer is "+mess_com+". You are
"+mess_user+" too. It is a draw");
    }
    else if((com == 1 && user == 0)|| (com == 0 && user == 2)|| (com == 2 && user ==
1))
    {
        System.out.println("The computer is "+mess_com+". You are
"+mess_user+". Computer won");
    }
    else
    {
        System.out.println("The computer is "+mess_com+". You are
"+mess_user+". You won");
    }
}
}
}

```

Question 2.

```

import java.util.*;
public class Ass3_2
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a today (0 for Sunday, 1 for Monday, ... 6 for
Saturday): ");
        int td = sc.nextInt();
        System.out.println("Enter the number of days elapsed since today: ");
        int ed = sc.nextInt();
        String day1="",day2="";
        switch(td)
        {
            case 0: day1 = "Sunday"; break;
            case 1: day1 = "Monday"; break;
            case 2: day1 = "Tuesday"; break;
            case 3: day1 = "Wednesday"; break;
            case 4: day1 = "Thursday"; break;
            case 5: day1 = "Friday"; break;

```

```

        case 6: day1 = "Saturday"; break;
    }
    switch((td+ed)%7)
    {
        case 0: day2 = "Sunday"; break;
        case 1: day2 = "Monday"; break;
        case 2: day2 = "Tuesday"; break;
        case 3: day2 = "Wednesday"; break;
        case 4: day2 = "Thursday"; break;
        case 5: day2 = "Friday"; break;
        case 6: day2 = "Saturday"; break;
    }
    System.out.println("Today is "+day1+" and the future day is "+day2);
    sc.close();
}
}

```

Question 3.

```

public class Ass3_3
{
    public static void main(String[] args)
    {
        int M = (int)(Math.random()*12)+1;
        System.out.println("Computer generated random number is " +M);
        switch(M)
        {
            case 1: System.out.println("Month is January"); break;
            case 2: System.out.println("Month is February"); break;
            case 3: System.out.println("Month is March"); break;
            case 4: System.out.println("Month is April"); break;
            case 5: System.out.println("Month is May"); break;
            case 6: System.out.println("Month is June"); break;
            case 7: System.out.println("Month is July"); break;
            case 8: System.out.println("Month is August"); break;
            case 9: System.out.println("Month is September"); break;
            case 10: System.out.println("Month is October"); break;
            case 11: System.out.println("Month is November"); break;
            case 12: System.out.println("Month is December"); break;
        }
    }
}

```

```

    }
}

```

Question 4.

```

import java.util.*;
public class Ass3_4
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a number to be checked: ");
        int n = sc.nextInt();
        boolean b1=false,b2=false;
        if(n%5==0 && n%6==0)
        {
            b1 = true;
        }
        if(n%5==0||n%6==0)
        {
            b2 = true;
        }
        System.out.println("Is "+n+" divisible by 5 and 6? "+b1);
        System.out.println("Is "+n+" divisible by 5 or 6? "+b2);
        System.out.println("Is "+n+" divisible by 5 or 6, but not both? "+!b1);
        sc.close();
    }
}

```

Question 5.

```

import java.util.*;

class Ass3_5
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);

```

```

System.out.println("What is your gender (M or F): ");
char gender = sc.next().charAt(0);
System.out.println("Enter your First name: ");
String fName = sc.next();
System.out.println("Enter your Last name: ");
String lName = sc.next();
System.out.println("Enter your Age: ");
int age = sc.nextInt();
if(gender=='F' || gender=='f')
{
    if(age >= 20)
    {
        System.out.println("Are you married, "+fName+" (y or n)? ");
        char married = sc.next().charAt(0);
        if(married=='Y' || married=='y')
        {
            System.out.println("Then I shall call you Mrs.
"+fName+" "+lName);
        }
        else
        {
            System.out.println("Then I shall call you Ms.
"+fName+" "+lName);
        }
    }
    else
    {
        System.out.println("Then I shall call you "+fName+"
"+lName);
    }
}
else if(gender=='M' || gender=='m')
{
    if(age >= 20)
    {
        System.out.println("Then I shall call you Mr. "+fName+"
"+lName);
    }
    else
    {

```

```
        System.out.println("Then I shall call you "+fName+"
"+lName);
    }
}
else
{
    System.out.println("Invalid Gender");
}
}
}
```