Solution of Assignment 4

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("\”You are eligible to cast your vote\”");
		}
	}
}
```

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("\"Yes, Alice is following doctor's advice\"");
	}
	else
	{
	System.out.println("\"No, Alice is not following doctor's advice\"");
	}
```

```
	}
}
```

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("\"Increasing\"");
		}
		else if(n1>n2 && n2>n1)
		{
			System.out.println("\"Decreasing\"");
		}
		else
		{
			System.out.println("\"Neither 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("\"Computer guesses:\"" +N);
                System.out.println("\"Your guess:\"" +n);
                if (com==user)
                {
                        System.out.println("\"You got it right\"");
                 }
                else if (Math.abs(com-user)==1)
                 {
                        System.out.println("\"Almost got it\"");
                 }
                else
                 {
                         System.out.println("\"You got it wrong\"");
                 }
        }
}
```

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 = b*0.03;
		}
		System.out.println(“Total amount is “+amount);
		 System.out.println("Discount:"+d);
		 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 = 1, max = 3;
                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");
                }
        }
}
```