Assignment 4

1. WAP using multiple if-else to input a character and check whether it is alphabet, digit or a special number character.

```
import java.util.*;

Class Alphabet

{
    public static void main (String args[])

    {
        char ch;
        Scanner sc = new Scanner (System.in);
        System.out.println ("Enter the character");
        ch = sc.next().charAt(0);
        if (ch >= 97 && ch <= 122 || ch >= 65 && ch <= 90)
        {
            System.out.println("Alphabet");
            ch1 = ch;
```

```
import java.util.*;

Class Alphabet

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

```
{
    int ch1;
    char ch, ch2;
    Scanner sc = new Scanner (System.in);
    System.out.println (" Enter the character ");
    ch = sc.next().charAt(0);
    if (ch >= 65 && ch <= 90 || ch >= 97 && ch <= 122)
    {
        ch1 = (int)ch ;
        ch2 = (char)ch;
        System.out.println(" Alphabet digit ");
    }
    else
    {
        System.out.println (" Special Character ");
    }
}
}
```

2.

```
import java.util.*;
Class Accessories
{
  public static void main (String args [])
  {
      int price; type char;
      double discount, amount;
```

```
Scanner sc = new Scanner (System.in);
System.out.println ("Enter the price and type of the watch");
price = sc.nextInt();
if( price <= 5000)
  {
type=sc.next().charAt(0); if (type == 'F' || type == 'f')
    {
      discount = 0.1 * price;
    }
  else if (type=='T' || type =='t')
  {
    discount = 0.12 * price;
  }
  else
    {
      System.out.println ("Invalid Choice");
    }
}
else if(price >=5000 && price <=20000)
  {
    if (type == 'F' || type == 'f')
    {
      discount= 0.15 * price;
    }
    else if (type == 'T' || type == 't')
    {
      discount = 0.18 * price;
    }
    else
    {
```

```
                System.out.println("Invalid Choice");
            }
        }
        else
        {
            if (type == 'F' || type == 'f')
            {
                discount = (0.2 * price) + 300;
            }
            else if (type == 'T' || type == 't')
            {
                discount = (0.18 * price) + 500;
            }
            else
            {
                System.out.println("Invalid Choice");
            }
        }
        amount = price - discount;
        System.out.println("Your amount is : " + amount);
    }
}
```

3.

```
import java.util.*;

class Booking

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

```
{
    int floor; days;
    char type;
    double bill;
    Scanner sc = new Scanner (System.in);
    System.out.println ("Enter type, floor and no. of
                         days ");
type = sc.next().charAt(0); days = sc.nextInt();
floor = sc.nextInt(); if (floor == 0)
type = sc.next().charAt(0);{
        if (type == 'AC' || type == 'ac')
        {
          bill = 2000 * days;
        }
        else if (type == 'Non-AC' || type == 'non-ac')
        {
          bill = 1600 * days;
        }
        else
        {
         System.out.println ("Invalid Choice ");
        }
} else if (floor == 1)
        {
          if (type == 'AC' || type == 'ac')
          {
            bill = 1600 * days;
          }
          else if (type == 'Non-AC' || type == 'non-ac')
          {
```

```
            bill = 1350 * days;
        }
        else
        {
            System.out.println("Invalid Choice")
        }
    }
    else if (floor == 2)
    {
        if (type == 'AC' || type == 'ac')
        {
            bill = 1200 * days;
        }
        else if (type == 'Non-AC' || type == 'non-ac')
        {
            bill = 900 * days;
        }
        else
        {
            System.out.println("Invalid Choice");
        }
    }
    else
    {
        System.out.println("Invalid Choice");
    }
    System.out.println("Your bill is :" + bill);
}
}
```

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4. What are the differences between Multiple If-Else and Switch Case?

Multiple If else is Multi branch statement used to evaluate more than one conditions.

Whereas

A switch statement is used to transfer control to a particular block of code, based on the value of the variable being tested

OR

Multiple If-else	Switch Case
• It can work with all relational operators.	It is used to test the equality.
• It can handle ranges.	It cannot handle ranges.
• It will work with variable as well as constant.	Case must be constant.
• It can handle floating point.	It cannot handle floating point.
• It can work with expression.	It cannot work with expression.
• It gives low performance.	It gives high performance.
• It takes more time to execute.	It takes less time to execute.

5.

```
import java.util.*;

Class Rectangle

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

```
{
    int l, b, ch;
    double area, perimeter, diagonal;
    Scanner sc = new Scanner (System.in);
    System.out.println("Enter Your choice");
    System.out.println("1. Area");
    System.out.println("2. Perimeter");
    System.out.println("3. Diagonal");
    ch = sc.nextInt();
    l = sc.nextInt();
    b = sc.nextInt();
    Switch (ch)
      {
        Case 1;
        {
          area = l * b;
          System.out.println("Your area is:" + area);
        Break;
      } Case 2:
        {
          perimeter = 2*(l+b);
          System.out.println("Your Perimeter is:" +perimeter);
          break;
      }
      Case 3:
      {
          diagonal = Math.sqrt(l*l + b*b);
          System.out.println("Your Diagonal is:" +diagonal);
          break;
      }
```

default:
System.out.println("Invalid Choice");

}
}
}