Conditionals

Assignment Solutions

PW SKILLS

Q1 - Write a program which takes the values of length and breadth from user and check if it is a square or not.

Sample Input :
Enter length:
5
Enter breadth:
4

Sample Output : It is a rectangle

```
import java.util.*;
public class Main
{
 public static void main(String[] args) {
  Scanner sc=new Scanner(System.in);
  int length;
  System.out.print("Enter the length : ");
  length=sc.nextInt();
  int breadth;
  System.out.print("Enter the breadth : ");
  breadth=sc.nextInt();
  if(length==breadth)
  {
     System.out.print("It is a square");
  }else{
      System.out.print("It is not a square");
  }
 }
}
```

```
import java.util.*;
public class Main
{
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        int length;
        System.out.print("Enter the length : ");
        length=sc.nextInt();
        int breadth;
        System.out.print("Enter the breadth : ");
        breadth=sc.nextInt();
        if(length==breadth)
        {
           System.out.print("It is a square");
        }else{
            System.out.print("It is not a square");
        }
    }
}
```

input

```
Enter the length : 5
Enter the breadth : 6
It is not a square
```

Q2 - Write a program to print absolute value of a number entered by the user.

Sample Input : -1
Sample Output : 1

```
import java.util.*;
public class Main
{
 public static void main(String[] args) {
  Scanner sc=new Scanner(System.in);
  int num;
  System.out.print("Enter the number : ");
  num=sc.nextInt();
  if(num<0)
  {
      num=num*-1;
  }
  System.out.print("The absolute value is : " + num);
 }
}
```

```
import java.util.*;
public class Main
{
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        int num;
        System.out.print("Enter the number : ");
        num=sc.nextInt();
        if(num<0)
        {
            num=num*-1;
        }
        System.out.print("The absolute value is : " + num);
    }
}
```

input

```
Enter the number : -6
The absolute value is : 6
```

Q3 - Write a program to take input from user for Cost Price (C.P.) and Selling Price(S.P.) and calculate Profit or Loss.

Explanation : Formula for profit and loss
Profit = S.P - C.P
Loss = C.P - S.P
(S.P is Selling Price and C.P is Cost Price)

Sample Input :
Enter cost price: 4000
Enter selling price: 9560

Sample Output :
Profit = 5560

```
import java.util.*;
public class Main
{
 public static void main(String[] args) {
  Scanner sc=new Scanner(System.in);
  int cp;
  int sp;
  System.out.print("Enter the Cost Price : ");
  cp=sc.nextInt();
  System.out.print("Enter the Selling Price : ");
  sp=sc.nextInt();
  int amt;
  if(cp>sp)
  {
      amt=cp-sp;
      System.out.print("The loss is : "+amt);
  }else if(cp<sp)
  {
      amt=sp-cp;
      System.out.print("The profit is : "+amt);
  }else{
      System.out.print("No Profit No Loss");
  }

 }
}
```

```java
import java.util.*;
public class Main
{
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        int cp;
        int sp;
        System.out.print("Enter the Cost Price : ");
        cp=sc.nextInt();
        System.out.print("Enter the Selling Price : ");
        sp=sc.nextInt();
        int amt;
        if(cp>sp)
        {
            amt=cp-sp;
            System.out.print("The loss is : "+amt);
        }else if(cp<sp)
        {
            amt=sp-cp;
            System.out.print("The profit is : "+amt);
        }else{
            System.out.print("No Profit No Loss");
        }

    }
}
```

input

```
Enter the Cost Price : 4000
Enter the Selling Price : 9500
The profit is : 5500

...Program finished with exit code 0
Press ENTER to exit console.
```

Q4 - Write a program to print positive number entered by the user, if user enters a negative number, it is skipped.

Sample Input : Enter an integer: -6
Sample Output : The number is negative and skipped

```
import java.util.*;
public class Main
{
 public static void main(String[] args) {
  Scanner sc=new Scanner(System.in);
  int x;
  System.out.print("Enter the Number : ");
  x=sc.nextInt();
  if(x ≥ 0)
  {
      System.out.print("You entered a positive number");
  }else{
      System.out.print("You number is negative and is skipped");
  }

 }
}
```

Q5 - Create a calculator using switch statement to perform addition, subtraction, multiplication and division.

Sample Input :
Enter an operator (+, -, *, /): -
Enter two numbers:
6
8

Sample Output : 6 - 8 = -2

```
import java.util.*;
class Main {
  public static void main(String[] args) {

    char op;
    Double num1;
    Double num2;
    Double ans;
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter an operator: (+, -, *, or /)");
    op = sc.next().charAt(0);
    System.out.print("Enter first number : ");
    num1 = sc.nextDouble();
    System.out.print("Enter second number : ");
    num2 = sc.nextDouble();

    switch (op) {

      case '+':
        ans = num1 + num2;
        System.out.println(num1 + " + " + num2 + " = " + ans);
        break;
      case '-':
        ans = num1 - num2;
        System.out.println(num1 + " - " + num2 + " = " + ans);
        break;
      case '*':
        ans = num1 * num2;
        System.out.println(num1 + " * " + num2 + " = " + ans);
        break;
      case '/':
        ans = num1 / num2;
        System.out.println(num1 + " / " + num2 + " = " + ans);
        break;
      default:
        System.out.println("Error! The operator is not correct");
        break;
    }
  }
}
```

```
Enter an operator: (+, -, *, or /) *
Enter first number : 5
Enter second number : 8
5.0 * 8.0 = 40.0
```

Q6 - Write a program to calculate marks to grades . Follow the conversion rule as given below :

100 – 90	A+
90 – 80	A
80 – 70	B+
70 – 60	B
60 – 50	C
50 – 40	D
40 – 30	E
30 – 0	F

Sample Input : Enter Your Marks: 98
Sample Output : Your Grade is A+

```
import java.util.*;
public class Main
{
 public static void main(String[] args) {
  Scanner sc=new Scanner(System.in);
  int marks;
  System.out.print("Enter the marks : ");
  marks=sc.nextInt();
  if(marks ⩾ 90)
  {
      System.out.print("Your Grade is A+");
  }else if(marks ⩾ 80)
  {
       System.out.print("Your Grade is A");
  }else if(marks ⩾ 70)
  {
       System.out.print("Your Grade is B+");
  }else if(marks ⩾ 60)
  {
       System.out.print("Your Grade is B");
  }else if(marks ⩾ 50)
  {
       System.out.print("Your Grade is C");
  }else if(marks ⩾ 40)
  {
       System.out.print("Your Grade is D");
  }else if(marks ⩾ 30)
  {
       System.out.print("Your Grade is E");
  }else if(marks<30){
       System.out.print("Your Grade is f");
  }else{
       System.out.print("Enter valid marks");
  }
 }
}
```

```java
import java.util.*;
public class Main
{
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        int marks;
        System.out.print("Enter the marks : ");
        marks=sc.nextInt();
        if(marks>=90)
        {
            System.out.print("Your Grade is A+");
        }else if(marks>=80)
        {
            System.out.print("Your Grade is A");
        }else if(marks>=70)
        {
            System.out.print("Your Grade is B+");
        }else if(marks>=60)
        {
            System.out.print("Your Grade is B");
        }else if(marks>=50)
        {
            System.out.print("Your Grade is C");
        }else if(marks>=40)
        {
            System.out.print("Your Grade is D");
        }else if(marks>=30)
        {
            System.out.print("Your Grade is E");
        }else if(marks<30){
            System.out.print("Your Grade is f");
        }else{
            System.out.print("Enter valid marks");
        }
    }
}
```

input

```
Enter the marks : 75
Your Grade is B+
```