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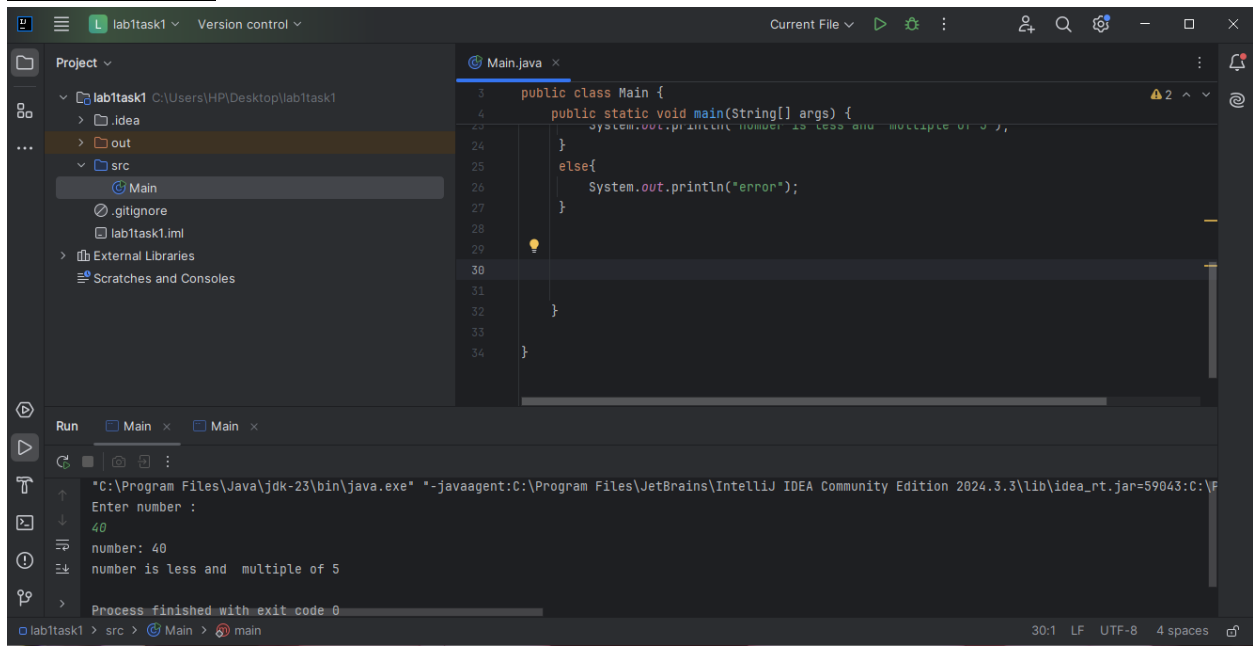
Lab task 1

Q1 :

Code :

```
import java.util.Scanner;//TIP To <b>Run</b> code, press <shortcut  
actionId="Run"/> or  
  
public class Main {  
    public static void main(String[] args) {  
        //TIP Press <shortcut actionId="ShowIntentionActions"/> with your  
        caret at the highlighted text  
        // to see how IntelliJ IDEA suggests fixing it.  
        Scanner obj=new Scanner(System.in);  
        int apple;  
        System.out.println("Enter number : ");  
  
        apple=obj.nextInt();  
        System.out.println("number: "+apple);  
        if(apple>50 && apple%5==0){  
            System.out.println("number is greater and multiple of 5");  
        }  
        else if(apple>50 && apple%5!=0){  
            System.out.println("number is greater and not multiple of 5");  
        }  
        else if(apple<50 && apple%5!=0){  
            System.out.println("number is less and not multiple of 5");  
        }  
        else if(apple<50 && apple%5==0){  
            System.out.println("number is less and multiple of 5");  
        }  
        else{  
            System.out.println("error");  
        }  
    }  
}
```

code output :

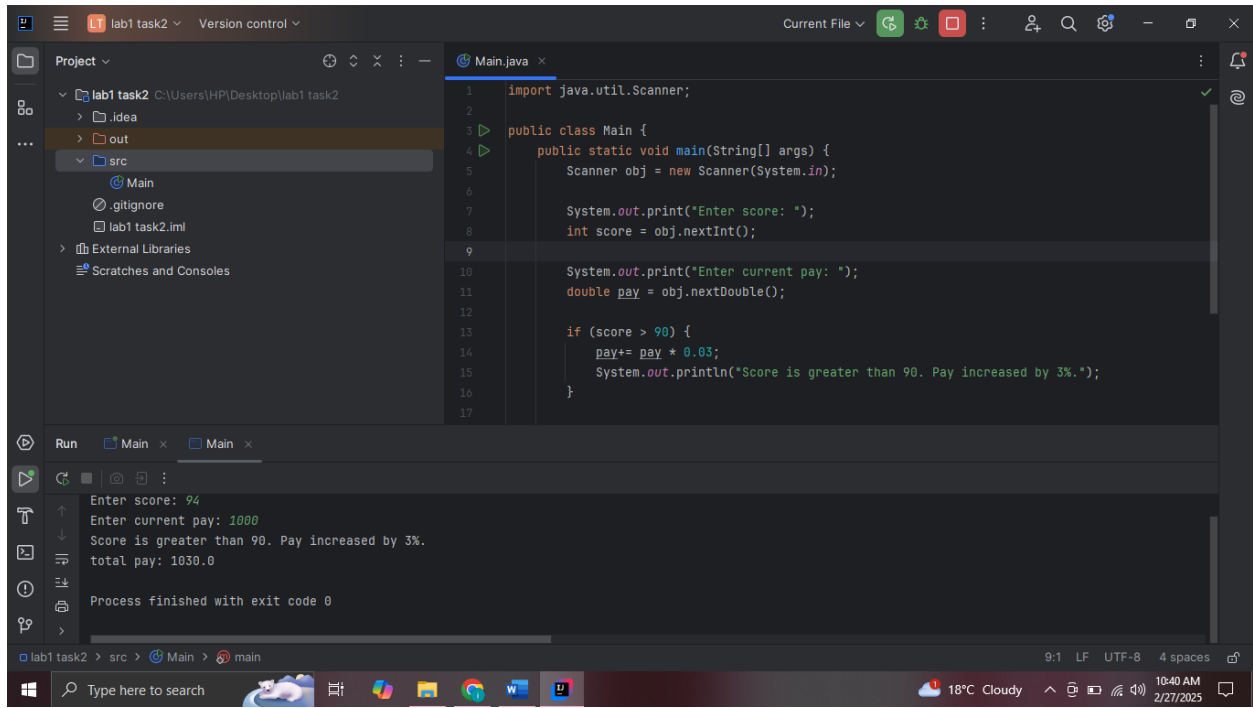


Q2 :

Code :

```
import java.util.Scanner;  
  
public class Main {  
    public static void main(String[] args) {  
        Scanner obj = new Scanner(System.in);  
  
        System.out.print("Enter score: ");  
        int score = obj.nextInt();  
  
        System.out.print("Enter current pay: ");  
        double pay = obj.nextDouble();  
  
        if (score > 90) {  
            pay+= pay * 0.03;  
            System.out.println("Score is greater than 90. Pay increased by  
3%.");  
        }  
  
        System.out.println("total pay: " +pay);  
    }  
}
```

code output :



The screenshot shows an IDE window for a project named 'lab1 task2'. The 'Project' view on the left shows the file structure with 'src' containing 'Main'. The 'Main.java' file is open in the editor, showing the following code:

```
1 import java.util.Scanner;
2
3 public class Main {
4     public static void main(String[] args) {
5         Scanner obj = new Scanner(System.in);
6
7         System.out.print("Enter score: ");
8         int score = obj.nextInt();
9
10        System.out.print("Enter current pay: ");
11        double pay = obj.nextDouble();
12
13        if (score > 90) {
14            pay += pay * 0.03;
15            System.out.println("Score is greater than 90. Pay increased by 3%.");
16        }
17    }
18 }
```

The 'Run' view at the bottom shows the execution output:

```
Enter score: 94
Enter current pay: 1000
Score is greater than 90. Pay increased by 3%.
total pay: 1030.0
Process finished with exit code 0
```

The status bar at the bottom indicates the file is 'lab1 task2 > src > Main > main', the encoding is 'UTF-8', and the date is '10:40 AM 2/27/2025'.

Q3:

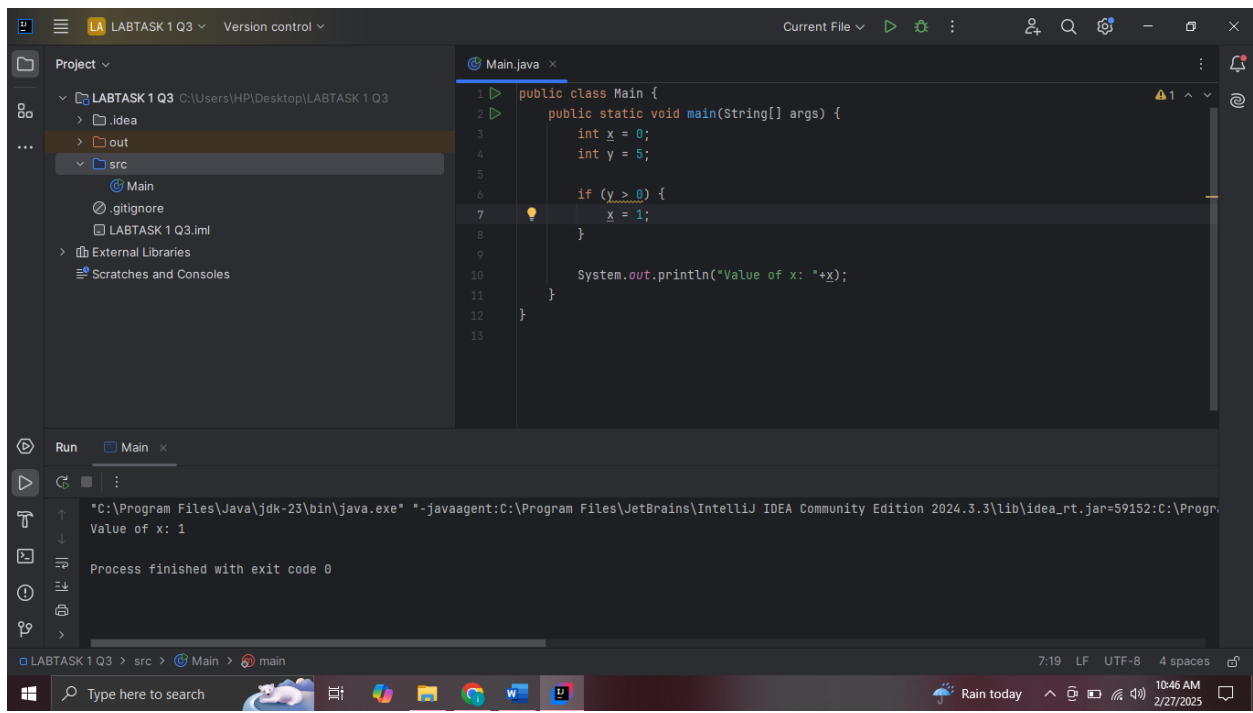
Code :

```
public class Main {
    public static void main(String[] args) {
        int x = 0;
        int y = 5;

        if (y > 0) {
            x = 1;
        }

        System.out.println("Value of x: "+x);
    }
}
```

output :



Q4:
code:

```
import java.util.Scanner;

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

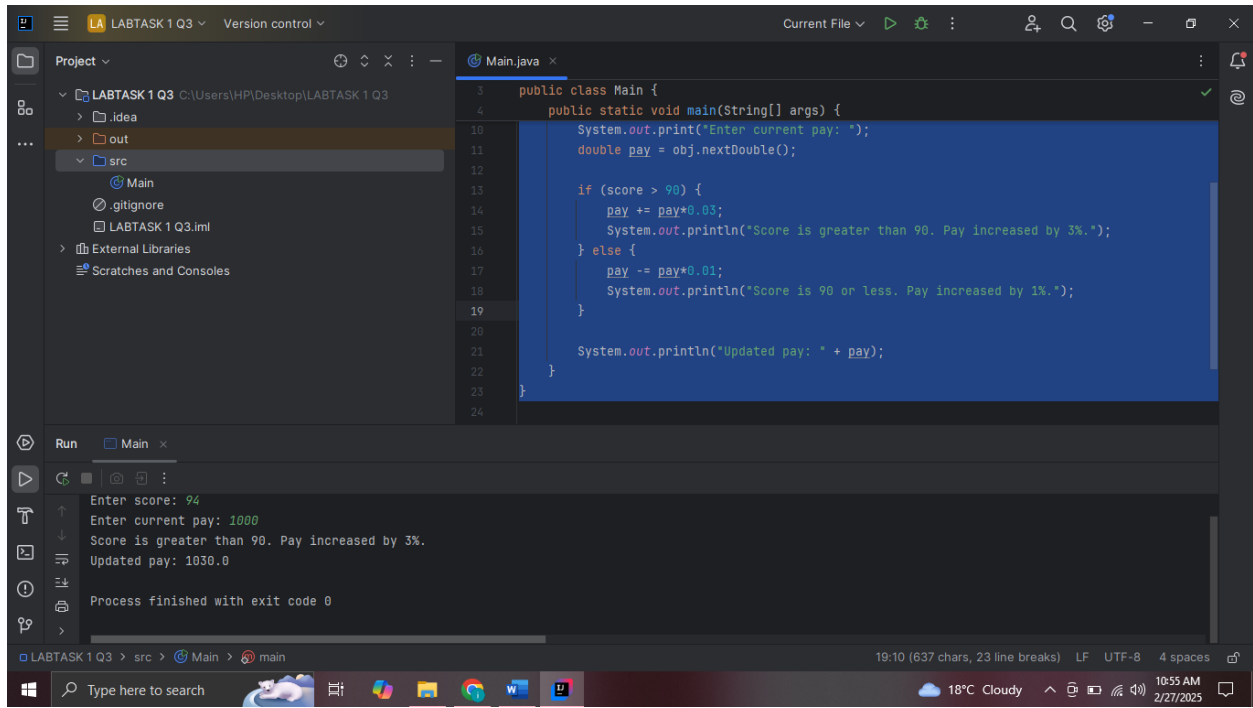
        System.out.print("Enter score: ");
        int score = obj.nextInt();

        System.out.print("Enter current pay: ");
        double pay = obj.nextDouble();

        if (score > 90) {
            pay += pay*0.03;
            System.out.println("Score is greater than 90. Pay increased by 3%.");
        } else {
            pay -= pay*0.01;
            System.out.println("Score is 90 or less. Pay increased by 1%.");
        }

        System.out.println("Updated pay: " + pay);
    }
}
```

output :



The screenshot shows an IDE window for a project named 'LABTASK 1 Q3'. The file explorer on the left shows the project structure with a 'src' folder containing 'Main.java'. The editor displays the following Java code:

```
3 public class Main {
4     public static void main(String[] args) {
10         System.out.print("Enter current pay: ");
11         double pay = obj.nextDouble();
12
13         if (score > 90) {
14             pay += pay*0.03;
15             System.out.println("Score is greater than 90. Pay increased by 3%.");
16         } else {
17             pay -= pay*0.01;
18             System.out.println("Score is 90 or less. Pay increased by 1%.");
19         }
20
21         System.out.println("Updated pay: " + pay);
22     }
23 }
24
```

The Run console at the bottom shows the execution output:

```
Enter score: 94
Enter current pay: 1000
Score is greater than 90. Pay increased by 3%.
Updated pay: 1030.0
Process finished with exit code 0
```

Q5 :

Code :

```
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter sound level in decibels: ");
        int decibels = scanner.nextInt();

        if (decibels == 130) {
            System.out.println("The noise level is: Jackhammer.");
        } else if (decibels == 106) {
            System.out.println("The noise level is: Lawnmower.");
        } else if (decibels == 70) {
            System.out.println("The noise level is: Alarm Clock.");
        } else if (decibels == 40) {
            System.out.println("The noise level is: Quiet Room.");
        }
        else if (decibels > 106 && decibels < 130) {
            System.out.println("The noise level is between Lawnmower and Jackhammer.");
        } else if (decibels > 70 && decibels < 106) {
            System.out.println("The noise level is between Alarm Clock and Lawnmower.");
        } else if (decibels > 40 && decibels < 70) {
            System.out.println("The noise level is between Quiet Room and Alarm Clock.");
        }
    }
}
```

```

    }
    else if (decibels < 40) {
        System.out.println("The noise level is below a Quiet Room.");
    } else {
        System.out.println("The noise level is above a Jackhammer.");
    }
}
}

```

output :

The screenshot displays the IntelliJ IDEA IDE with a project named 'LABTASK 1 Q3'. The 'Main.java' file is open, showing a Java class with a 'main' method. The code uses a series of if-else statements to categorize noise levels based on decibels. The console output shows the user entering '110' decibels, and the program outputs 'The noise level is between Lawnmower and Jackhammer.' The process finished with exit code 0.

Q 8:

Code :

```

import java.util.Scanner;

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

        System.out.println("Mobile Service Provider Packages:");
        System.out.println("A: $29.99 per month, 200 minutes included. Additional minutes: $0.45 each.");
        System.out.println("B: $39.99 per month, 400 minutes included. Additional minutes: $0.40 each.");
        System.out.println("C: $59.99 per month, unlimited minutes.");
    }
}

```

```

System.out.print("Enter your package (A, B, or C): ");
String packageType = scanner.nextLine();

System.out.print("Enter the number of minutes used: ");
int minutesUsed = scanner.nextInt();

double totalBill = 0.0;

switch (packageType) {
    case "A":
    case "a":
        totalBill = 29.99;
        if (minutesUsed > 200) {
            totalBill += (minutesUsed - 200) * 0.45;
        }
        break;

    case "B":
    case "b":
        totalBill = 39.99;
        if (minutesUsed > 400) {
            totalBill += (minutesUsed - 400) * 0.40;
        }
        break;

    case "C":
    case "c":
        totalBill = 59.99;
        break;

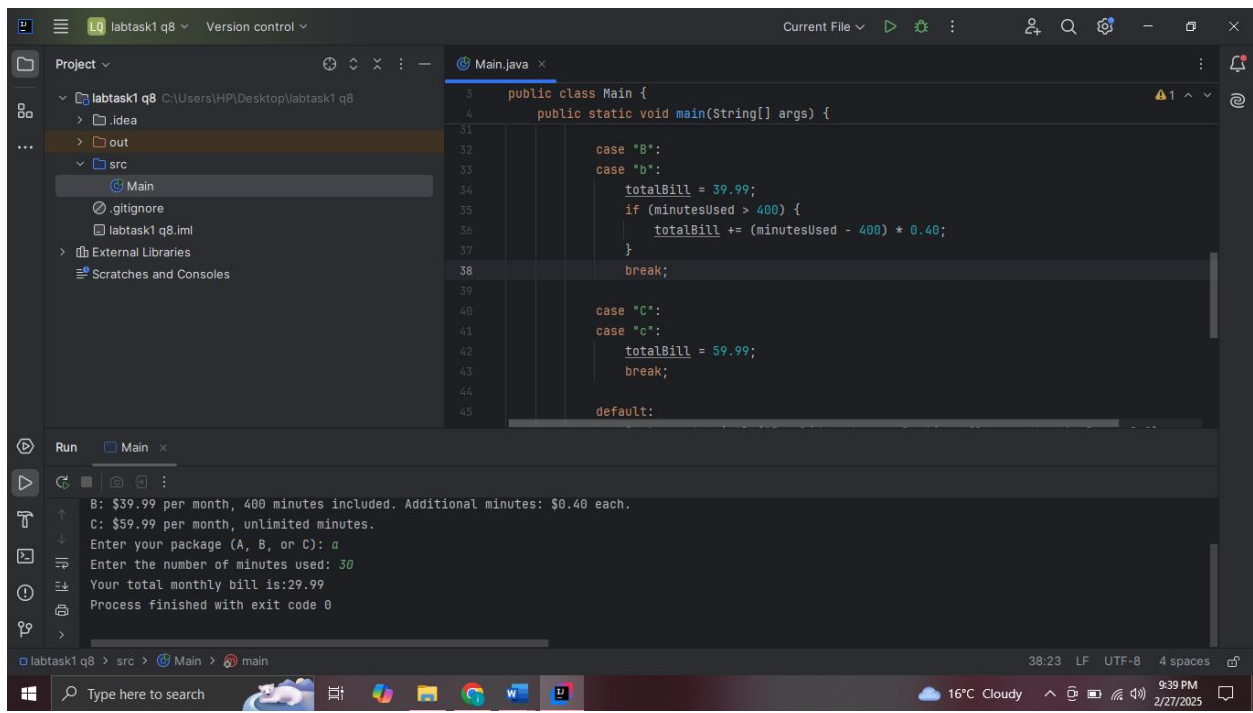
    default:
        System.out.println("Invalid package selection. Please enter
A, B, or C.");
        scanner.close();
        return;
}

System.out.printf("Your total monthly bill is:" + totalBill);

scanner.close();
}

```

output :



Q9:

Code :

```
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter weight in pounds: ");
        double weight = scanner.nextDouble();
        System.out.print("Enter feet: ");
        int feet = scanner.nextInt();
        System.out.print("Enter inches: ");
        int inches = scanner.nextInt();
        int totalInches = (feet * 12) + inches;
        double heightMeters = totalInches * 0.0254;
        double weightKg = weight * 0.453592;
        double bmi = weightKg / (heightMeters * heightMeters);
        System.out.println("BMI is " + bmi);
        if (bmi < 18.5) {
            System.out.println("Underweight");
        } else if (bmi < 24.9) {
            System.out.println("Normal");
        } else if (bmi < 29.9) {
            System.out.println("Overweight");
        } else {
            System.out.println("Obese");
        }
        scanner.close();
    }
}
```

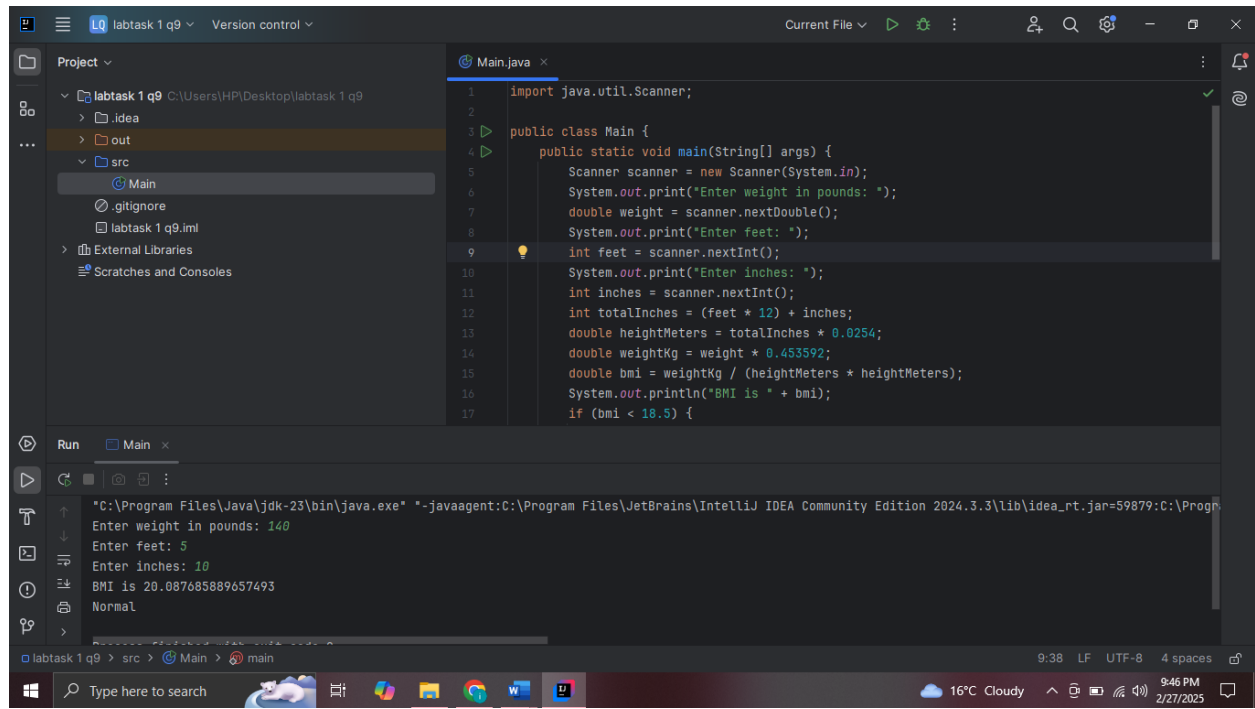


```

    }
}

```

output :



Q10:

Code :

```
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        char choice;
        do {
            System.out.println("Welcome to the World of Switches and Cases");
            System.out.println("Press 'A' to add two integers");
            System.out.println("Press 'S' to subtract two integers");
            System.out.println("Press 'M' to multiply two integers");
            System.out.println("Press 'E' to exit the program");
            System.out.print("Please enter your choice: ");
            choice = scanner.next().charAt(0);
            switch (Character.toUpperCase(choice)) {
                case 'A':
                    System.out.print("Enter the first integer: ");
                    int num1 = scanner.nextInt();
```

```

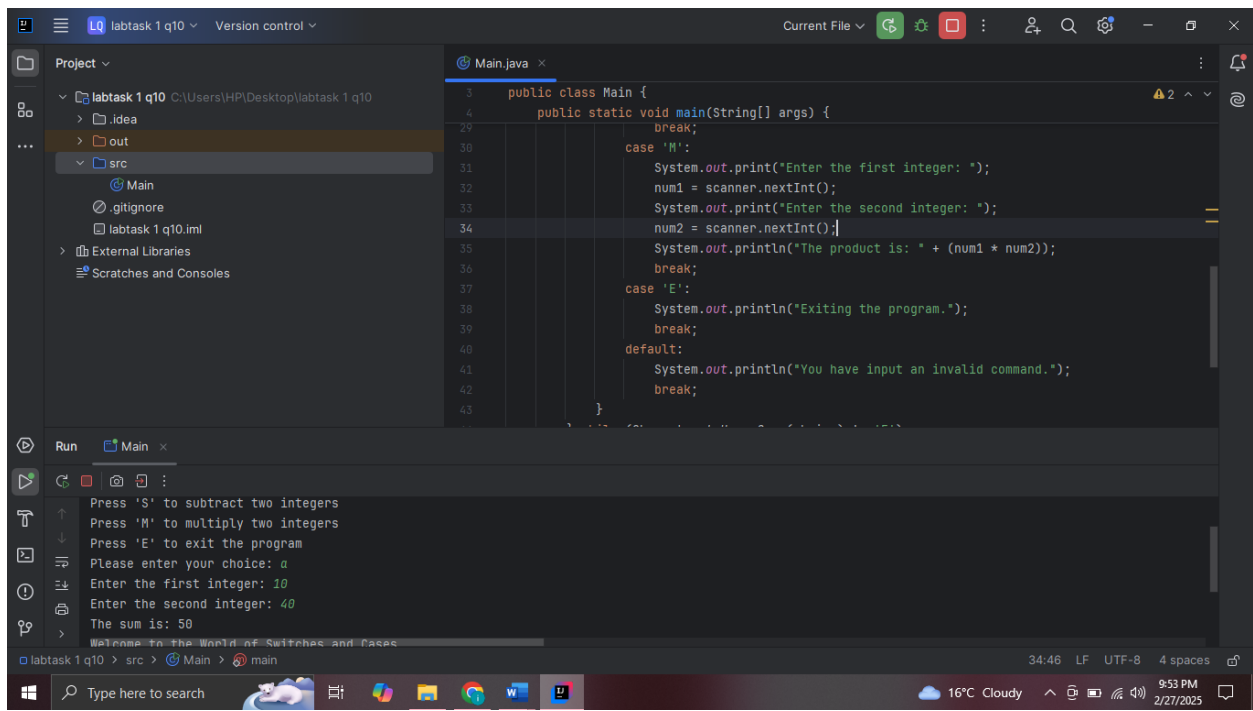
        System.out.print("Enter the second integer: ");
        int num2 = scanner.nextInt();
        System.out.println("The sum is: " + (num1 + num2));
        break;
    case 'S':
        System.out.print("Enter the first integer: ");
        num1 = scanner.nextInt();
        System.out.print("Enter the second integer: ");
        num2 = scanner.nextInt();
        System.out.println("The difference is: " + (num1 -
num2));

        break;
    case 'M':
        System.out.print("Enter the first integer: ");
        num1 = scanner.nextInt();
        System.out.print("Enter the second integer: ");
        num2 = scanner.nextInt();
        System.out.println("The product is: " + (num1 * num2));
        break;
    case 'E':
        System.out.println("Exiting the program.");
        break;
    default:
        System.out.println("You have input an invalid command.");
        break;
    }
} while (Character.toUpperCase(choice) != 'E');

}
}

```

output :

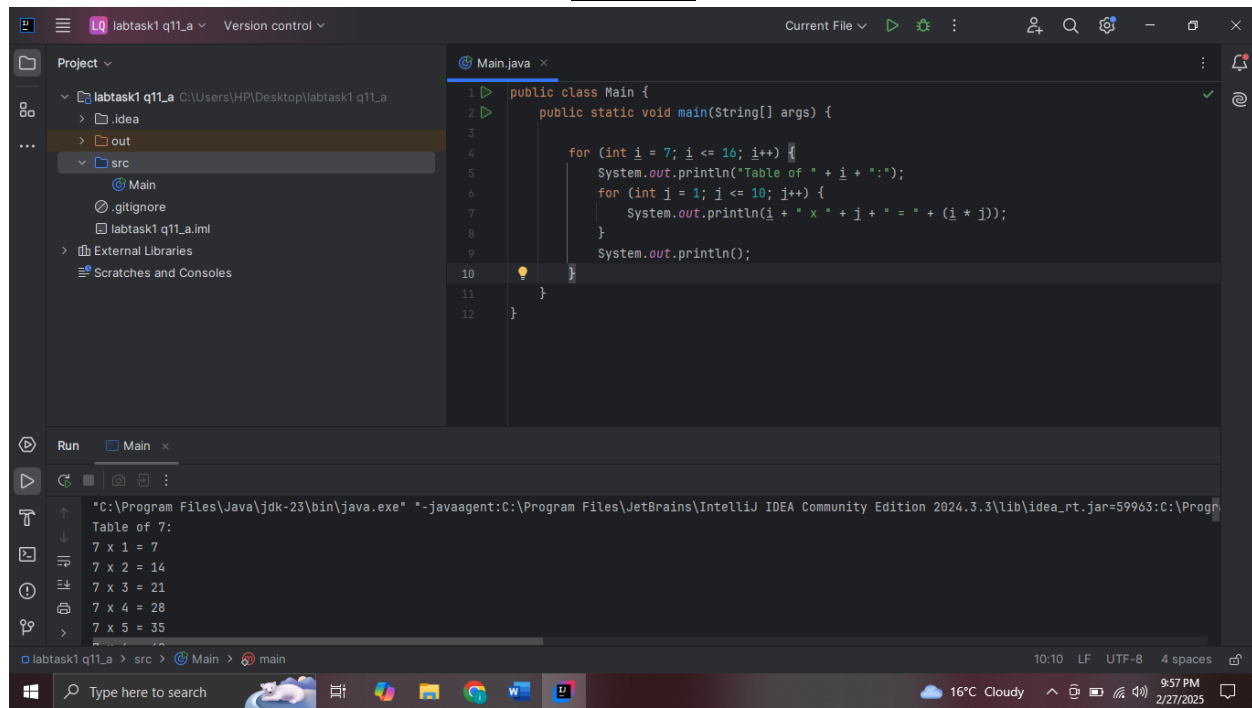


Q 11 (A):

Code :

```
public class Main {  
    public static void main(String[] args) {  
  
        for (int i = 7; i <= 16; i++) {  
            System.out.println("Table of " + i + ":");  
            for (int j = 1; j <= 10; j++) {  
                System.out.println(i + " x " + j + " = " + (i * j));  
            }  
            System.out.println();  
        }  
    }  
}
```

output :



The screenshot shows the IntelliJ IDEA IDE with a project named 'labtask1 q11_a'. The 'Main.java' file is open, displaying the following code:

```
1 public class Main {
2     public static void main(String[] args) {
3
4         for (int i = 7; i <= 16; i++) {
5             System.out.println("Table of " + i + ":");
6             for (int j = 1; j <= 10; j++) {
7                 System.out.println(i + " x " + j + " = " + (i * j));
8             }
9             System.out.println();
10        }
11    }
12 }
```

The 'Run' tab at the bottom shows the output of the program:

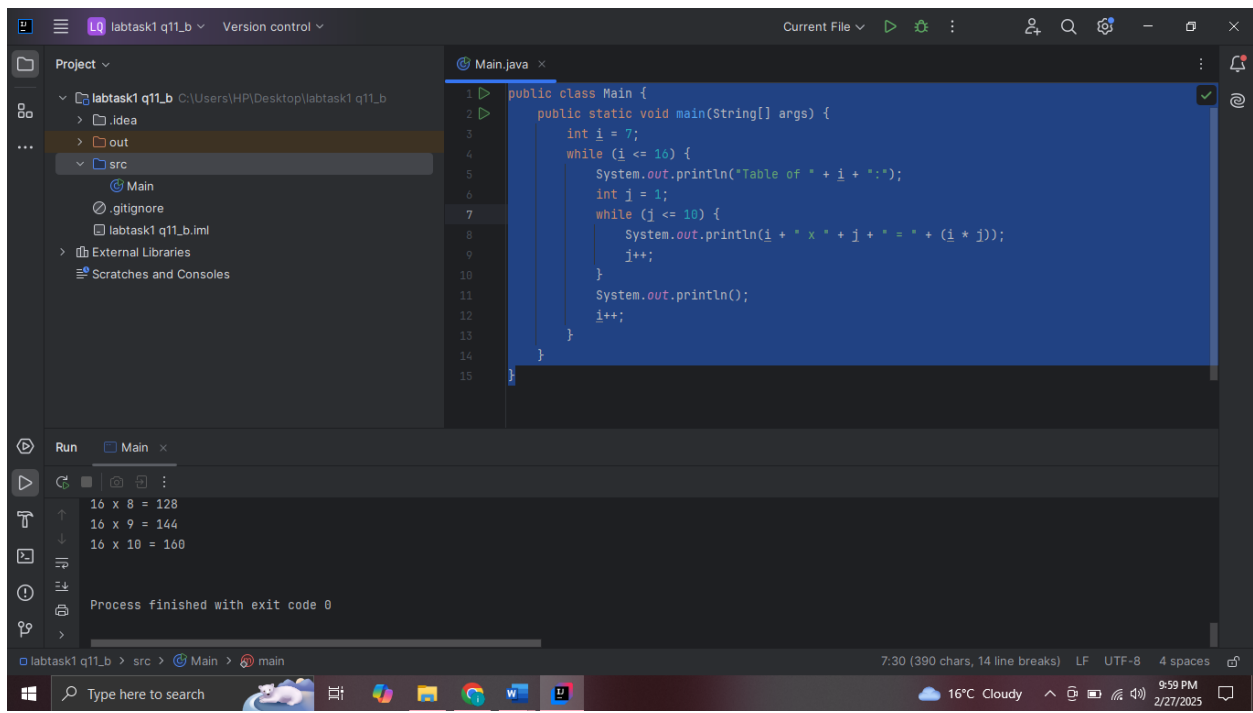
```
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.3\lib\idea_rt.jar=59963:C:\Progr
Table of 7:
7 x 1 = 7
7 x 2 = 14
7 x 3 = 21
7 x 4 = 28
7 x 5 = 35
```

B part :

Code :

```
public class Main {
    public static void main(String[] args) {
        int i = 7;
        while (i <= 16) {
            System.out.println("Table of " + i + ":");
            int j = 1;
            while (j <= 10) {
                System.out.println(i + " x " + j + " = " + (i * j));
                j++;
            }
            System.out.println();
            i++;
        }
    }
}
```

output :

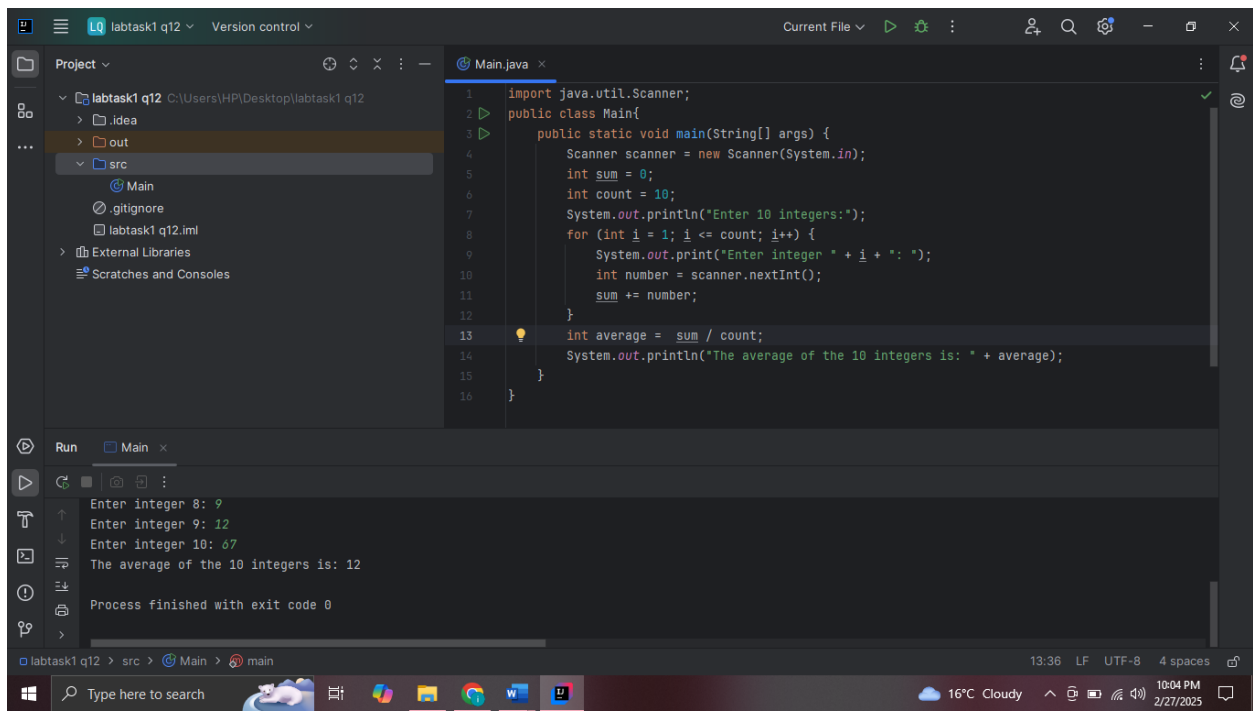


Q 12:

Code :

```
import java.util.Scanner;
public class Main{
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int sum = 0;
        int count = 10;
        System.out.println("Enter 10 integers:");
        for (int i = 1; i <= count; i++) {
            System.out.print("Enter integer " + i + ": ");
            int number = scanner.nextInt();
            sum += number;
        }
        int average = sum / count;
        System.out.println("The average of the 10 integers is: " + average);
    }
}
```

output :



Q 13 :

Code :

```
public class Main {
    public static void main(String[] args) {
        int totalLines = 4; // Total lines in the pattern

        for (int i = 0; i < totalLines; i++) {
            for (int space = 0; space < i; space++) {
                System.out.print(" ");
            }
            int characters = 7 - 2 * i;
            for (int j = 0; j < characters; j++) {
                if (j % 2 == 0) {
                    System.out.print("1");
                } else {
                    System.out.print("0");
                }
            }
            System.out.println();
        }
    }
}
```

output :

