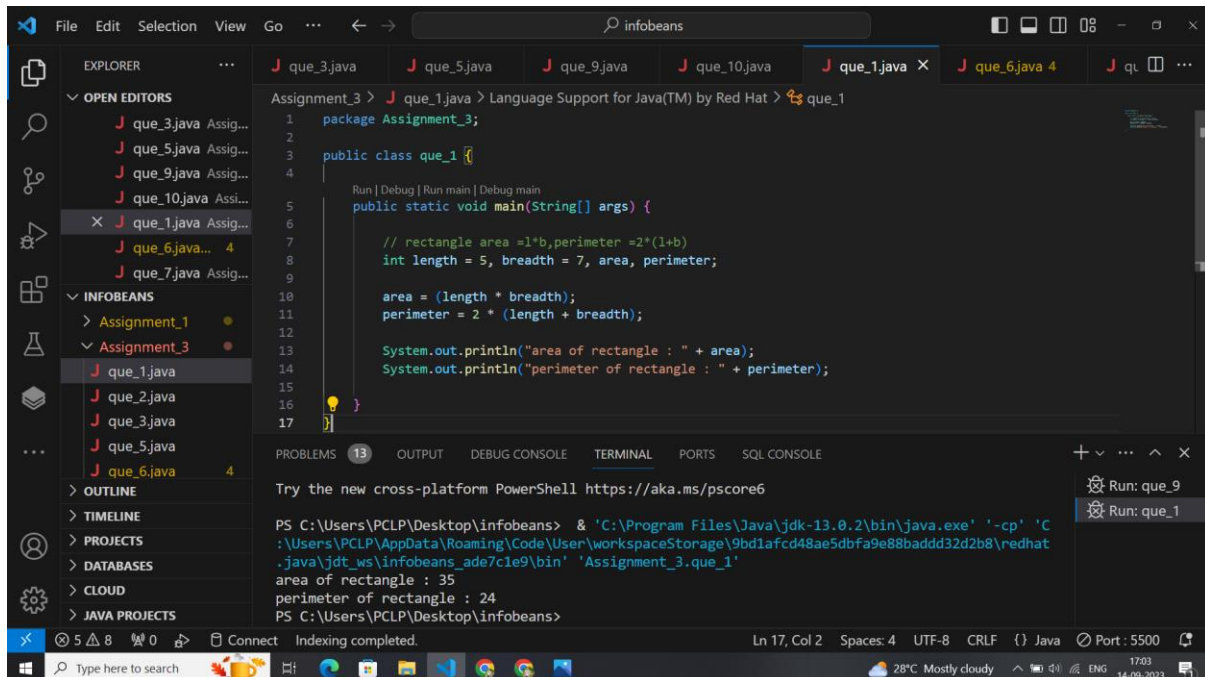


1.Length and breadth of a rectangle are 5 and 7 respectively. Write a program to calculate the area and perimeter of the rectangle.



The screenshot shows an IDE with a Java file named `que_1.java` open. The code defines a class `que_1` with a `main` method. Inside the `main` method, variables `length` and `breadth` are initialized to 5 and 7 respectively. The area is calculated as `length * breadth` and the perimeter as `2 * (length + breadth)`. The results are printed to the console. The terminal output shows the execution of the program, displaying the area as 35 and the perimeter as 24.

```
package Assignment_3;

public class que_1 {

    Run | Debug | Run main | Debug main
    public static void main(String[] args) {

        // rectangle area =l*b,perimeter =2*(l+b)
        int length = 5, breadth = 7, area, perimeter;

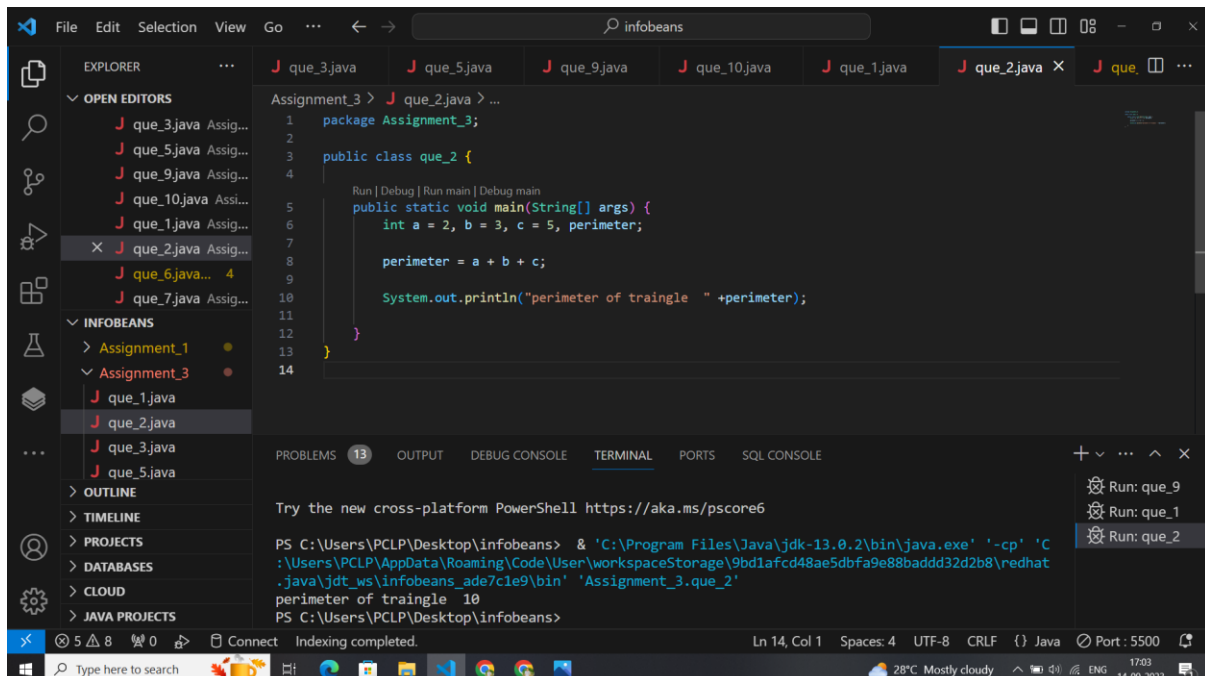
        area = (length * breadth);
        perimeter = 2 * (length + breadth);

        System.out.println("area of rectangle : " + area);
        System.out.println("perimeter of rectangle : " + perimeter);
    }
}
```

Try the new cross-platform PowerShell <https://aka.ms/pscore6>

```
PS C:\Users\PCLP\Desktop\infobeans> & 'C:\Program Files\Java\jdk-13.0.2\bin\java.exe' '-cp' 'C:\Users\PCLP\AppData\Roaming\Code\User\workspaceStorage\9bd1afcd48ae5dbfa9e88badd32d2b8\redhat.java\jdt_ws\infobeans_ade7c1e9\bin' 'Assignment_3.que_1'
area of rectangle : 35
perimeter of rectangle : 24
PS C:\Users\PCLP\Desktop\infobeans>
```

2.Write a program to calculate the perimeter of a triangle having sides of length 2,3 and 5 units.



The screenshot shows an IDE with a Java file named `que_2.java` open. The code defines a class `que_2` with a `main` method. Inside the `main` method, variables `a`, `b`, and `c` are initialized to 2, 3, and 5 respectively. The perimeter is calculated as `a + b + c`. The result is printed to the console. The terminal output shows the execution of the program, displaying the perimeter as 10.

```
package Assignment_3;

public class que_2 {

    Run | Debug | Run main | Debug main
    public static void main(String[] args) {

        int a = 2, b = 3, c = 5, perimeter;

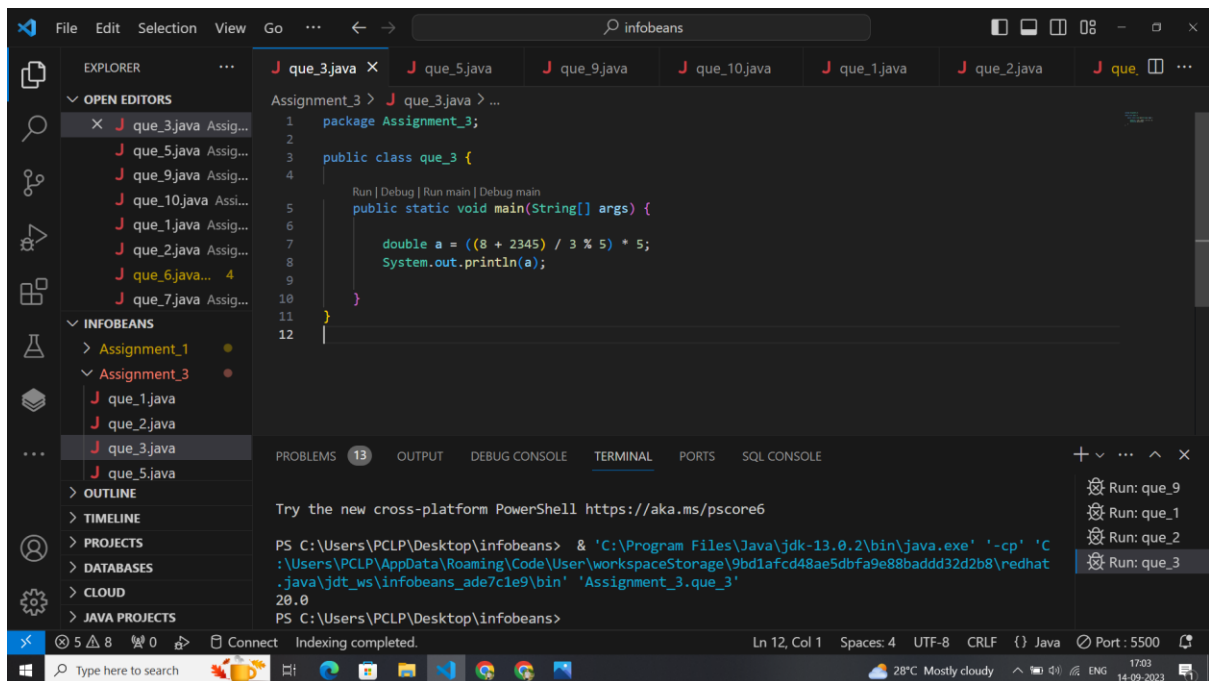
        perimeter = a + b + c;

        System.out.println("perimeter of traingle " + perimeter);
    }
}
```

Try the new cross-platform PowerShell <https://aka.ms/pscore6>

```
PS C:\Users\PCLP\Desktop\infobeans> & 'C:\Program Files\Java\jdk-13.0.2\bin\java.exe' '-cp' 'C:\Users\PCLP\AppData\Roaming\Code\User\workspaceStorage\9bd1afcd48ae5dbfa9e88badd32d2b8\redhat.java\jdt_ws\infobeans_ade7c1e9\bin' 'Assignment_3.que_2'
perimeter of traingle 10
PS C:\Users\PCLP\Desktop\infobeans>
```

3. Write a program to add 8 to the number 2345 and then divide it by 3. Now, the modulus of the quotient is taken with 5 and then multiply the resultant value by 5. Display the final result.



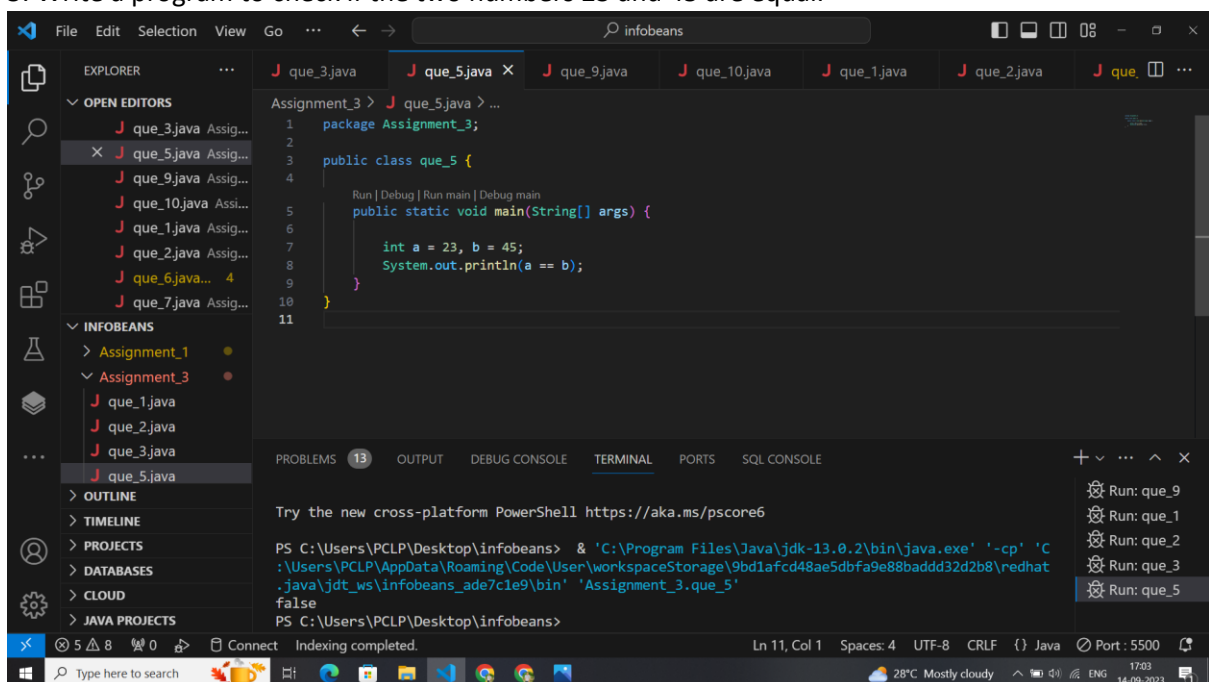
The screenshot shows an IDE with the Explorer panel on the left, the Editor panel in the center, and the Terminal panel at the bottom. The Explorer panel shows a project named 'Assignment_3' with files 'que_1.java', 'que_2.java', 'que_3.java', 'que_5.java', 'que_6.java', 'que_7.java', 'que_9.java', 'que_10.java', 'que_1.java', 'que_2.java', and 'que_3.java'. The Editor panel shows the code for 'que_3.java'.

```
1 package Assignment_3;
2
3 public class que_3 {
4
5     Run | Debug | Run main | Debug main
6     public static void main(String[] args) {
7
8         double a = ((8 + 2345) / 3 % 5) * 5;
9         System.out.println(a);
10    }
11
12 }
```

The Terminal panel shows the command prompt output:

```
PS C:\Users\PCLP\Desktop\infobeans> & 'C:\Program Files\Java\jdk-13.0.2\bin\java.exe' '-cp' 'C:\Users\PCLP\AppData\Roaming\Code\User\workspaceStorage\9bd1afcd48ae5dbfa9e88badd32d2b8\redhat.java\jdt_ws\infobeans_ade7c1e9\bin' 'Assignment_3.que_3'
PS C:\Users\PCLP\Desktop\infobeans>
```

5. Write a program to check if the two numbers 23 and 45 are equal.



The screenshot shows an IDE with the Explorer panel on the left, the Editor panel in the center, and the Terminal panel at the bottom. The Explorer panel shows a project named 'Assignment_3' with files 'que_1.java', 'que_2.java', 'que_3.java', 'que_5.java', 'que_6.java', 'que_7.java', 'que_9.java', 'que_10.java', 'que_1.java', 'que_2.java', and 'que_3.java'. The Editor panel shows the code for 'que_5.java'.

```
1 package Assignment_3;
2
3 public class que_5 {
4
5     Run | Debug | Run main | Debug main
6     public static void main(String[] args) {
7
8         int a = 23, b = 45;
9         System.out.println(a == b);
10    }
11 }
```

The Terminal panel shows the command prompt output:

```
PS C:\Users\PCLP\Desktop\infobeans> & 'C:\Program Files\Java\jdk-13.0.2\bin\java.exe' '-cp' 'C:\Users\PCLP\AppData\Roaming\Code\User\workspaceStorage\9bd1afcd48ae5dbfa9e88badd32d2b8\redhat.java\jdt_ws\infobeans_ade7c1e9\bin' 'Assignment_3.que_5'
PS C:\Users\PCLP\Desktop\infobeans>
```

6. Write a program to print the power of 7 raised to 5.

The screenshot shows an IDE with a Java file named `que_6.java` open. The code is as follows:

```
1 package Assignment_3;
2
3 public class que_6 {
4
5     Run | Debug | Run main | Debug main
6     public static void main(String[] args) {
7
8         int a = 7, b = 5;
9         double c = Math.pow(a:7, b:5);
10        System.out.println(c);
11    }
12 }
```

The terminal output shows the command to run the program and the resulting output:

```
PS C:\Users\PCLP\Desktop\infobeans> & 'C:\Program Files\Java\jdk-13.0.2\bin\java.exe' '-cp' 'C:\Users\PCLP\AppData\Roaming\Code\User\workspaceStorage\9bd1afcd48ae5dbfa9e88badd32d2b8\redhat.java\jdt_ws\infobeans_ade7c1e9\bin' 'Assignment_3.que_6'
16807.0
```

The status bar at the bottom indicates the file is at line 12, column 1, with 4 spaces, UTF-8 encoding, and CRLF line endings.

7. Assign values of variables 'a' and 'b' as 55 and 70 respectively and then check if both the conditions 'a < 50' and 'a < b' are true.

8. Now solve the above question to check if atleast one of the conditions 'a < 50' or 'a < b' is true.

The screenshot shows an IDE with a Java file named `que_7.java` open. The code is as follows:

```
1 package Assignment_3;
2
3 public class que_7 {
4
5     Run | Debug | Run main | Debug main
6     public static void main(String[] args) {
7
8         int a = 55, b = 70;
9
10        System.out.println(a < 50 && a < b);
11        // Question =8
12        System.out.println(a < 50 || a < b);
13    }
14 }
```

The terminal output shows the command to run the program and the resulting output:

```
PS C:\Users\PCLP\Desktop\infobeans> & 'C:\Program Files\Java\jdk-13.0.2\bin\java.exe' '-cp' 'C:\Users\PCLP\AppData\Roaming\Code\User\workspaceStorage\9bd1afcd48ae5dbfa9e88badd32d2b8\redhat.java\jdt_ws\infobeans_ade7c1e9\bin' 'Assignment_3.que_7'
false
true
```

The status bar at the bottom indicates the file is at line 14, column 1, with 4 spaces, UTF-8 encoding, and CRLF line endings.

9. If the marks of Robert in three subjects are 78,45 and 62 respectively (each out of 100), write a program to calculate his total marks and percentage marks.

The screenshot shows an IDE with a Java file named `que_9.java`. The code calculates the total marks and percentage for a student named Robert. The marks in three subjects are 78, 45, and 62. The program outputs the total marks as 185 and the percentage as 61.666668.

```

package Assignment_3;

public class que_9 {

    Run | Debug | Run main | Debug main
    public static void main(String[] args) {
        int a = 78, b = 45, c = 62;

        int total_marks = a + b + c;
        float percentage = (total_marks * 100) / 300f;

        System.out.println("Total marks : " + total_marks);
        System.out.println("percentage : " + percentage);
    }
}

```

The terminal output shows the execution of the program:

```

PS C:\Users\PCLP\Desktop\infobeans> & 'C:\Program Files\Java\jdk-13.0.2\bin\java.exe' '-cp' 'C:\Users\PCLP\AppData\Roaming\Code\User\workspaceStorage\9bd1afcd48ae5dbfa9e88badd32d2b8\redhat.java\jdt_ws\infobeans_ade7c1e9\bin' 'Assignment_3.que_9'

Total marks : 185
percentage : 61.666668
PS C:\Users\PCLP\Desktop\infobeans>

```

10 .The total number of students in a class are 90 out of which 45 are boys. If 50% of the total students secured grade 'A' out of which 20 are boys, then write a program to calculate the total number of girls getting grade 'A'.

The screenshot shows an IDE with a Java file named `que_10.java`. The code calculates the total number of girls getting grade 'A' based on the given data: total students = 90, boys = 45, and 50% of total students secured grade 'A'. The program outputs the total number of girls getting grade 'A' as 25.

```

public class que_10 {

    Run | Debug | Run main | Debug main
    public static void main(String[] args) {
        int total_students = 90;
        int boys = 45;

        double grade_A_Percentage = 50.0;

        double grade_A_Students = (grade_A_Percentage / 100) * total_students;

        int boys_With_Grade_A = 20;

        int girls_With_Grade_A = (int) (grade_A_Students - boys_With_Grade_A);

        System.out.println("Total number of girls getting grade A: " + girls_With_Grade_A);
    }
}

```

The terminal output shows the execution of the program:

```

PS C:\Users\PCLP\Desktop\infobeans> & 'C:\Program Files\Java\jdk-13.0.2\bin\java.exe' '-cp' 'C:\Users\PCLP\AppData\Roaming\Code\User\workspaceStorage\9bd1afcd48ae5dbfa9e88badd32d2b8\redhat.java\jdt_ws\infobeans_ade7c1e9\bin' 'Assignment_3.que_10'

Total number of girls getting grade A: 25
PS C:\Users\PCLP\Desktop\infobeans>

```