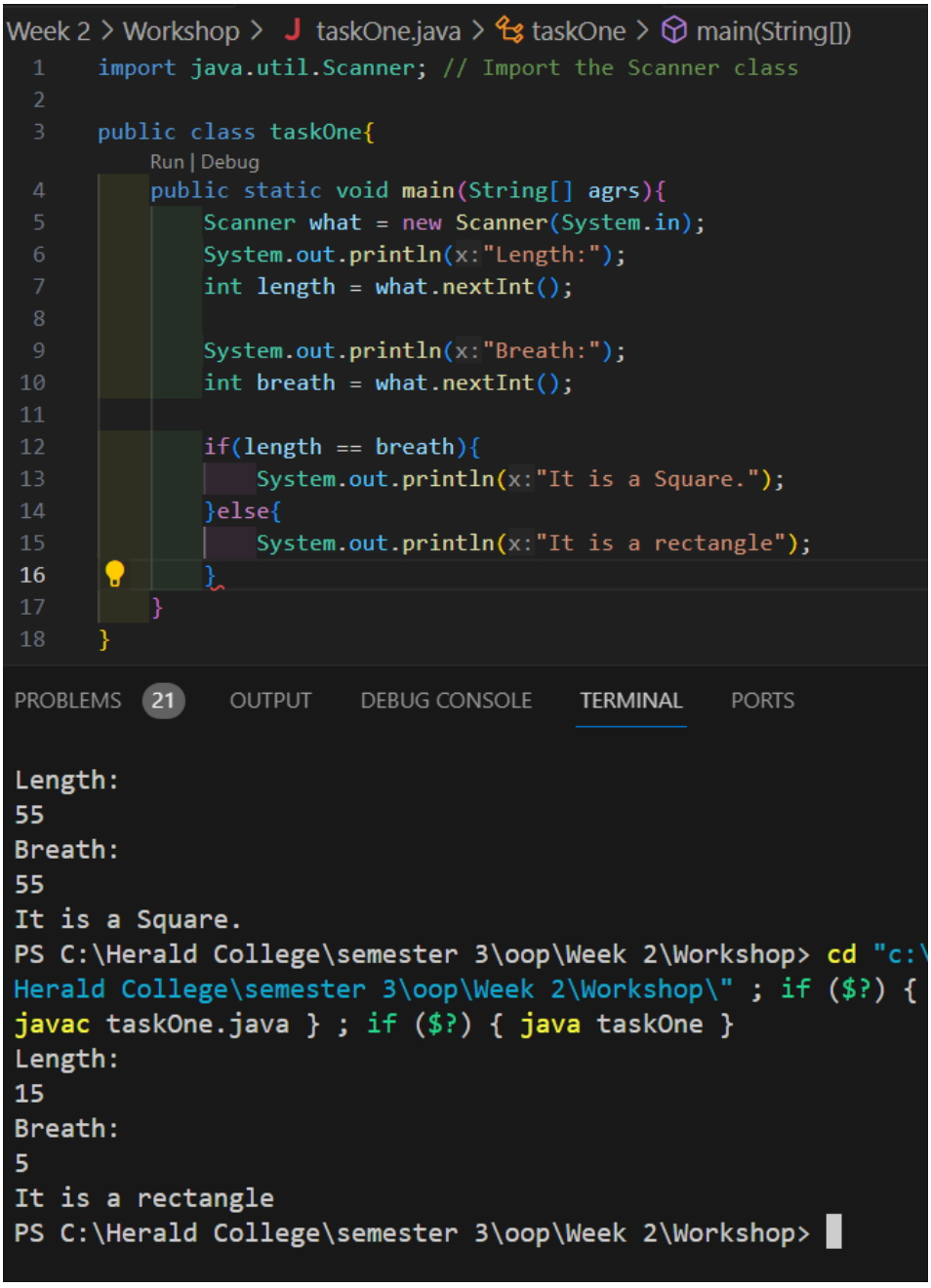
Object Oriented Design and Programming

Workshop2

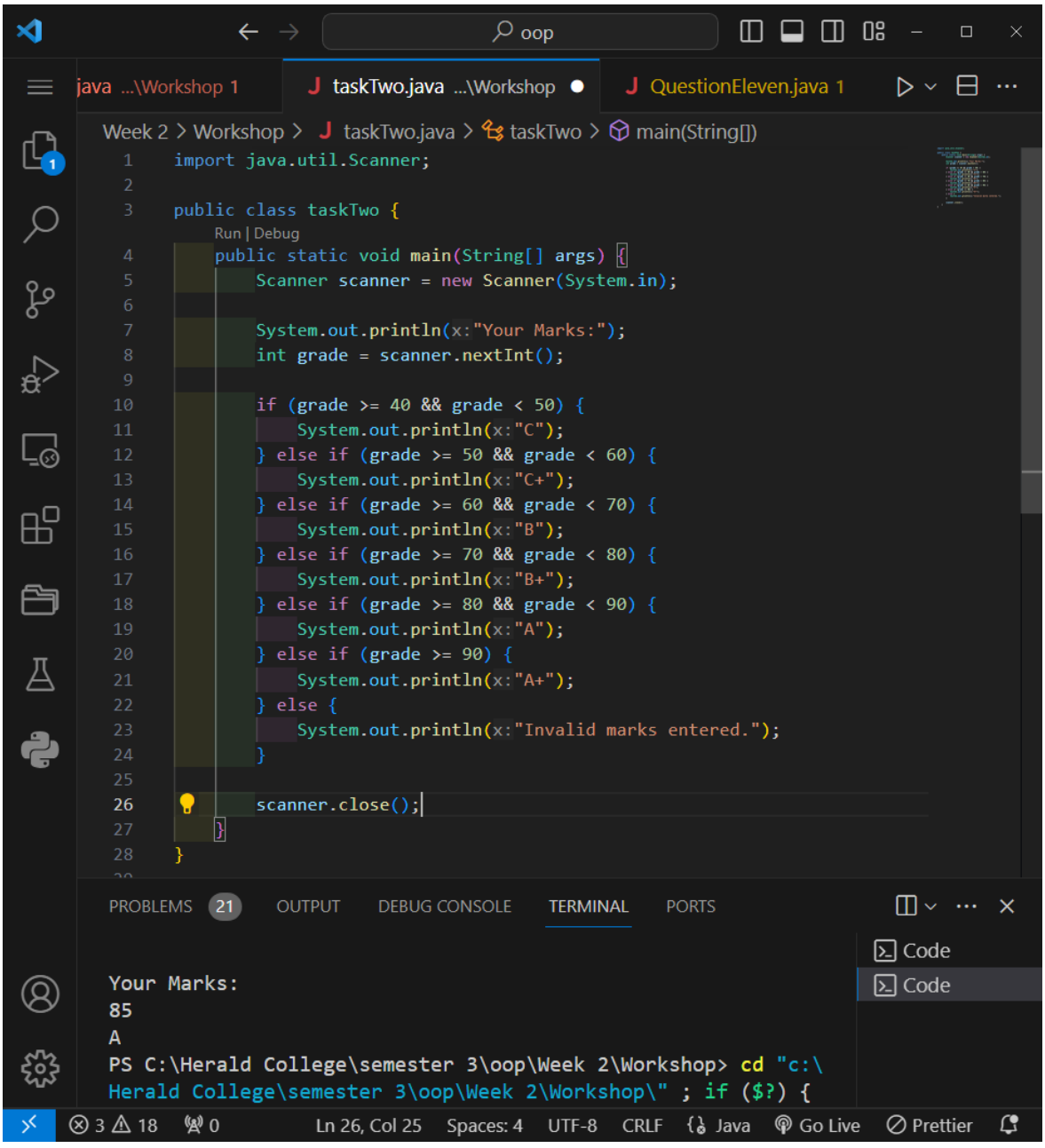
Go through the questions below and answer the questions:

1. Taking length and breadth of a rectangle from user and check if it is square or not.

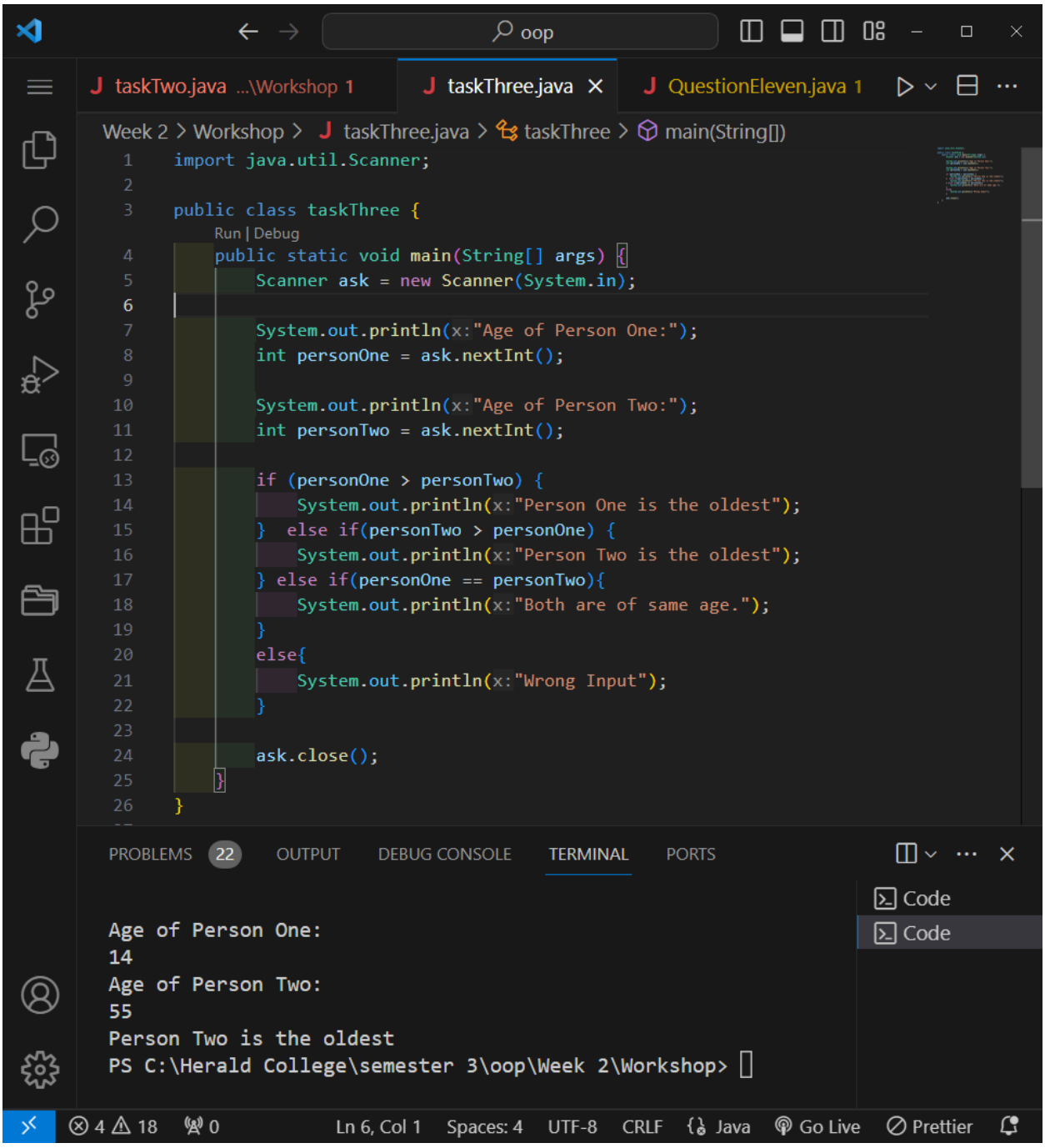


2. A college has following rules for grading system:
   a. 40 to 50 - C
   b. 50 to 60 - C+
   c. 60 to 70 - B
   d. 70 to 80 - B+
   e. 80 to 90 - A
   f. Above 90 - A+

   Ask user to enter marks and print the corresponding grade using if-else-if statement.

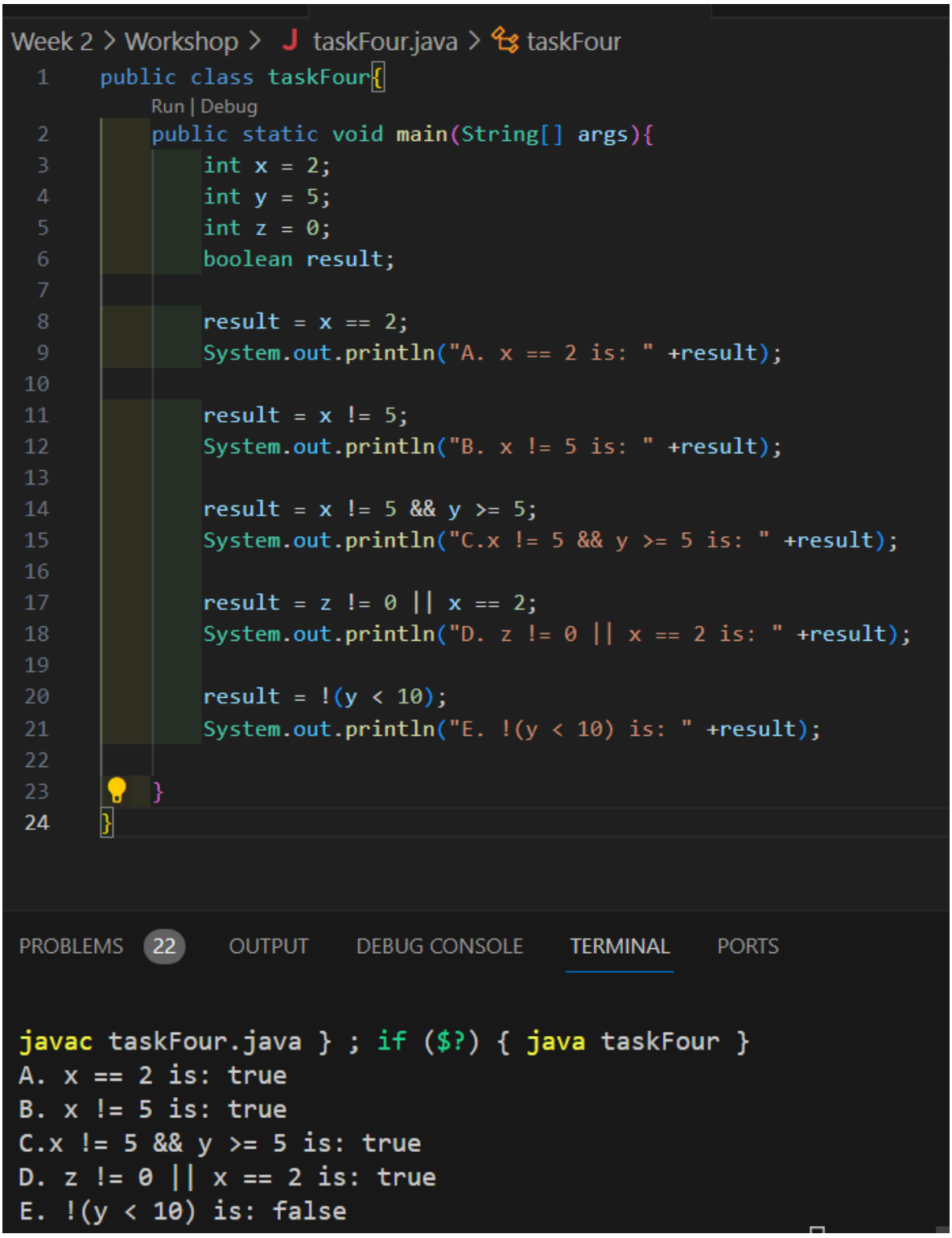


3. Determine oldest and youngest among the people taking the using input.

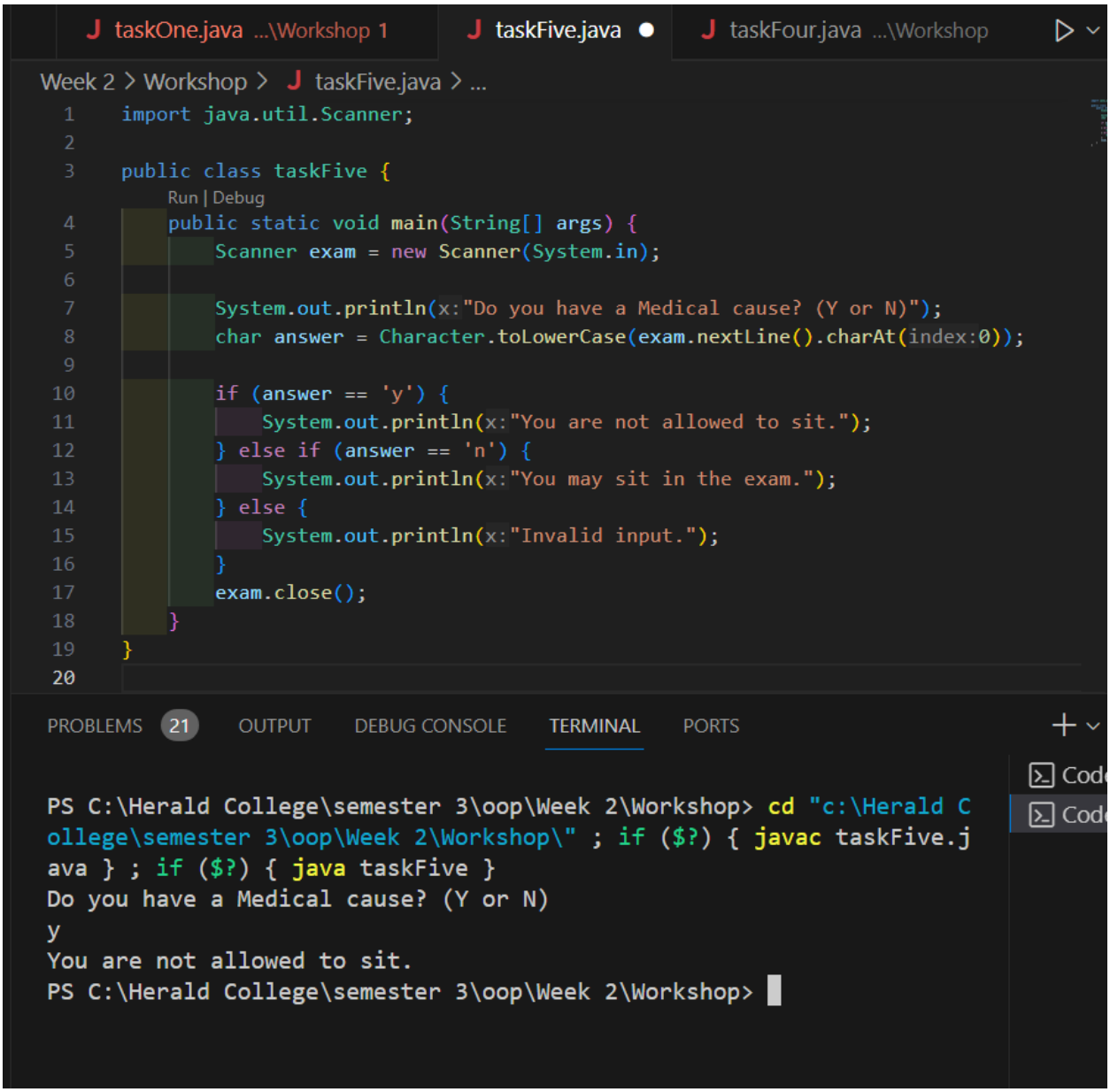



```java
import java.util.Scanner;

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

        System.out.println("Age of Person One:");
        int personOne = ask.nextInt();

        System.out.println("Age of Person Two:");
        int personTwo = ask.nextInt();

        if (personOne > personTwo) {
            System.out.println("Person One is the oldest");
        }  else if(personTwo > personOne) {
            System.out.println("Person Two is the oldest");
        } else if(personOne == personTwo){
            System.out.println("Both are of same age.");
        }
        else{
            System.out.println("Wrong Input");
        }

        ask.close();
    }
}
```

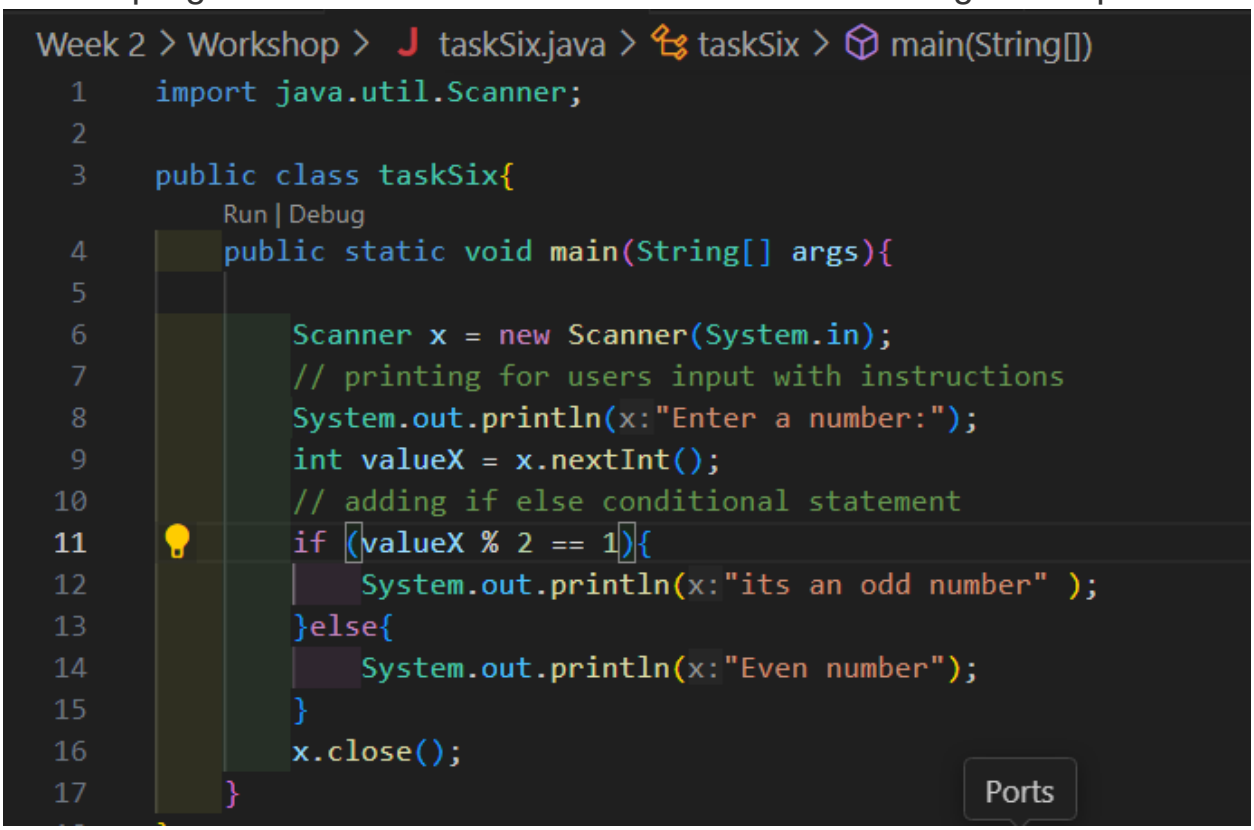
4. If
   x = 2, y = 5, z = 0
   then find values of the following expressions:
   a. x == 2, b. x != 5, c. x != 5 && y >= 5, d. z != 0 || x == 2, e. !(y < 10)

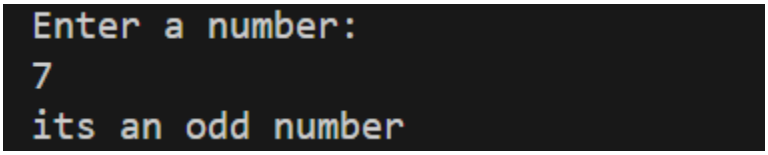


5. Ask student if he/she has medical cause or not ('y or 'n'). if (‘y’) print you are not allowed to sit in the exam and if(‘n’’) print you can sit in the exam.

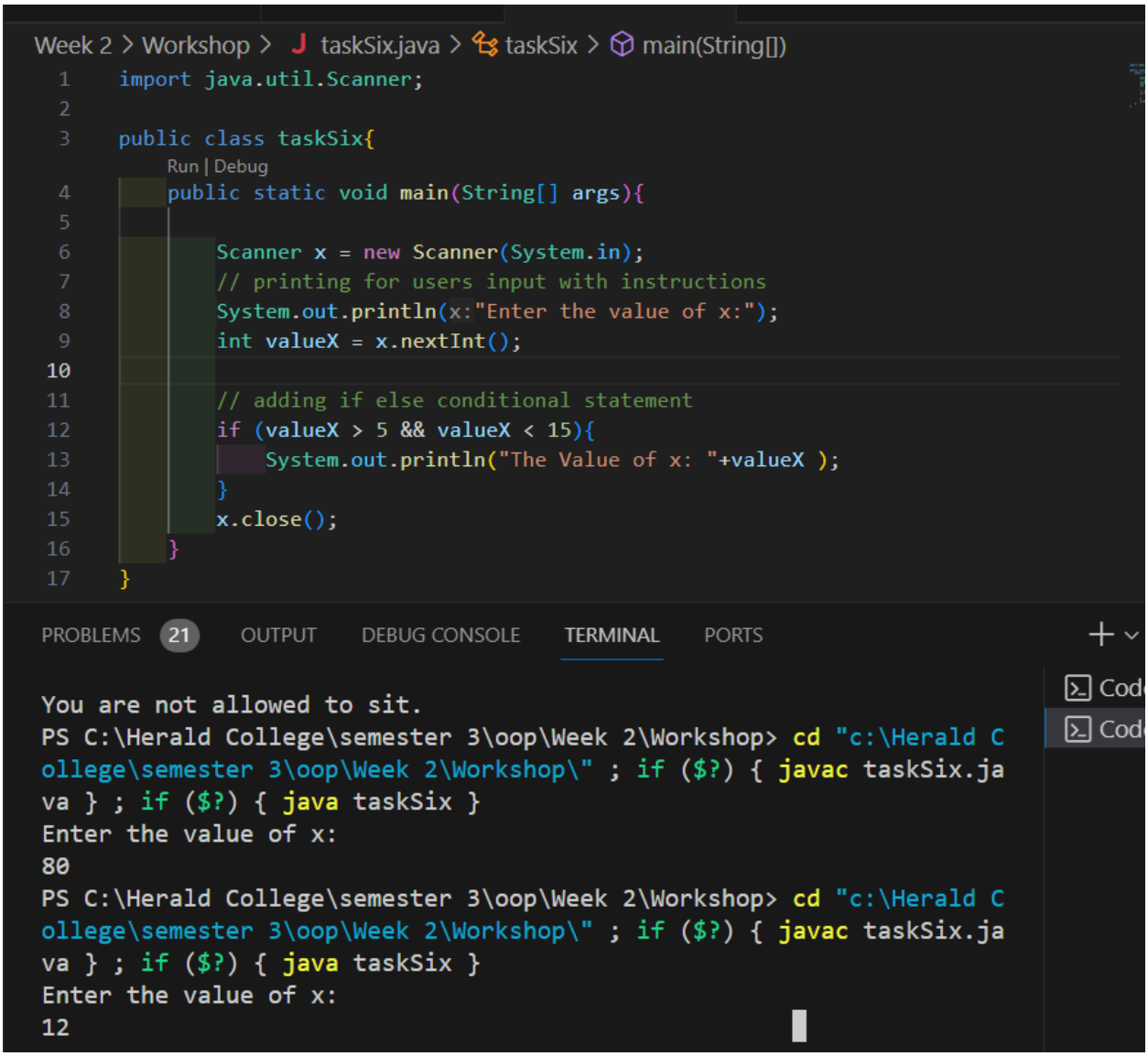


6. Write a program to check the odd and even numbers using user input.





7. Write a program to print the value of x ,if and only if the value of x is x>5 and less x<15 taking user input.



Week 2 > Workshop > taskSix.java > taskSix > main(String[])

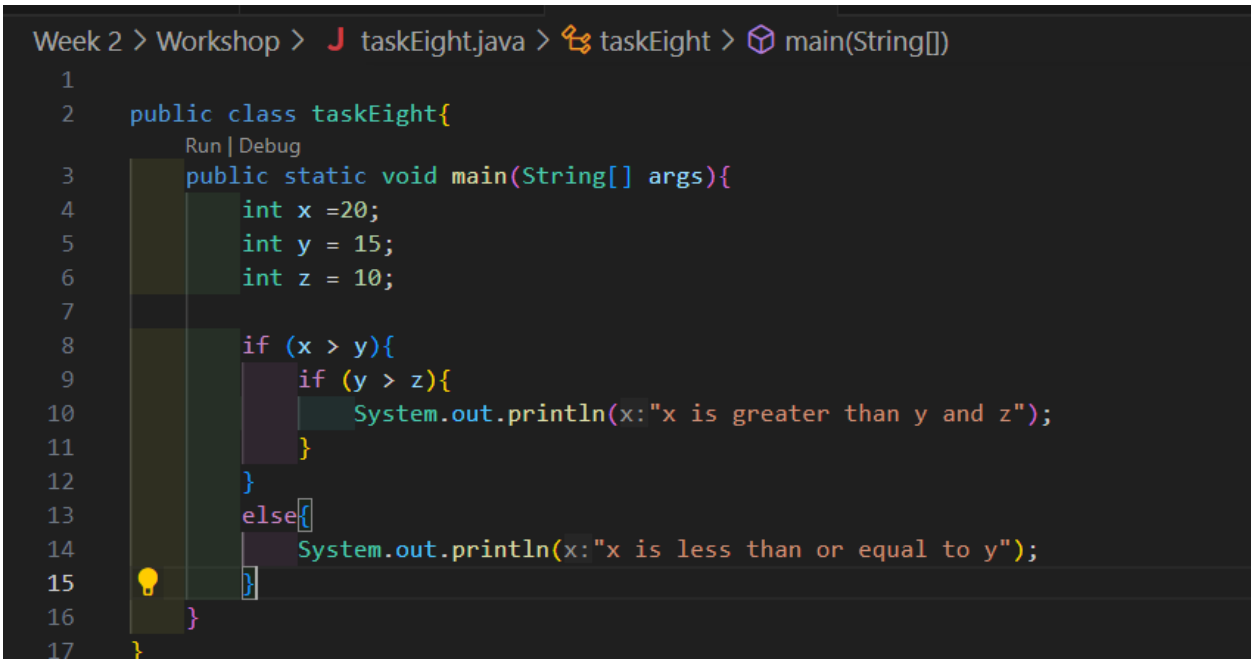
```java
import java.util.Scanner;

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

        Scanner x = new Scanner(System.in);
        // printing for users input with instructions
        System.out.println(x:"Enter the value of x:");
        int valueX = x.nextInt();

        // adding if else conditional statement
        if (valueX > 5 && valueX < 15){
            System.out.println("The Value of x: "+valueX );
        }
        x.close();
    }
}
```

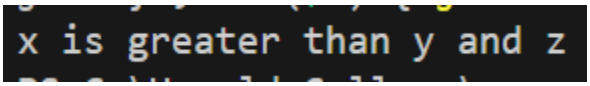
PROBLEMS 21 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
You are not allowed to sit.
PS C:\Herald College\semester 3\oop\Week 2\Workshop> cd "c:\Herald C
ollege\semester 3\oop\Week 2\Workshop\" ; if ($?) { javac taskSix.ja
va } ; if ($?) { java taskSix }
Enter the value of x:
80
PS C:\Herald College\semester 3\oop\Week 2\Workshop> cd "c:\Herald C
ollege\semester 3\oop\Week 2\Workshop\" ; if ($?) { javac taskSix.ja
va } ; if ($?) { java taskSix }
Enter the value of x:
12
```

8. Assuming the value: x=20,y=15,z=10.Complete the code below and observe the result.

```
if (x > y)

{

    if (y > z){  System.out.println("x is greater than y and z");}     // statement1.

}

else

 System.out.println("x is less than or equal to y"); // statement2.
```





9. A college has following rules for grading system:
   a. grade -A+ print ("Excellent !")
   b. grade -A print ("Outstanding !")
   c. grade -B+ print ("Good !")
   d. grade -B print ("Can do better !")
   e. grade -C+ print ("Just Passed !")
   f. grade -C print ("You Failed !")
   print ("Invalid grade!") for default case

   Ask user to enter grade and print the corresponding grade using switch statement

builtIn.java 8 | taskEleven.java | taskNine.java

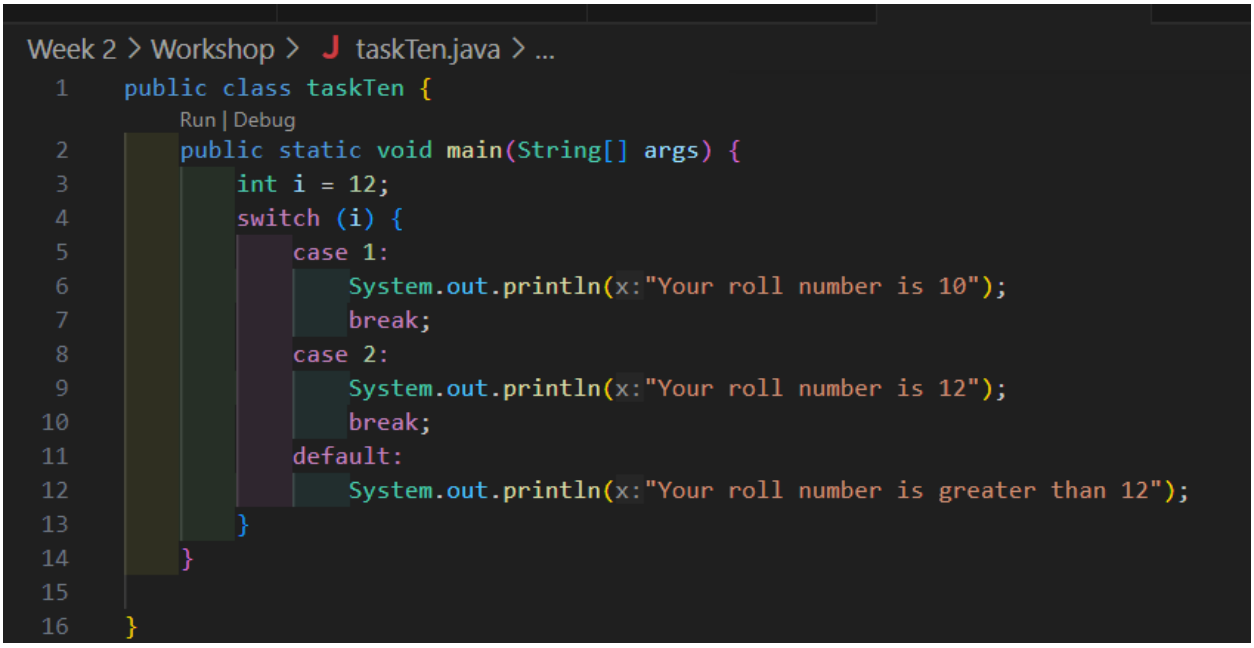
Week 2 > Workshop > taskNine.java > taskNine > main(String[])

```java
import java.util.Scanner;

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

        System.out.println(x:"Enter your grade: ");
        String grade = scanner.next();

        switch (grade) {
            case "A+":
                System.out.println(x:"Excellent!");
                break;
            case "A":
                System.out.println(x:"Outstanding!");
                break;
            case "B+":
                System.out.println(x:"Good!");
                break;
            case "B":
                System.out.println(x:"Can do better!");
                break;
            case "C+":
                System.out.println(x:"Just Passed!");
                break;
            case "C":
                System.out.println(x:"You Failed!");
                break;
            default:
                System.out.println(x:"Invalid grade!");
        }
        scanner.close();
    }
```

```
Enter your grade:
B+
Good!
Enter your grade:
B
Can do better!
PS C:\Herald College\ser
```

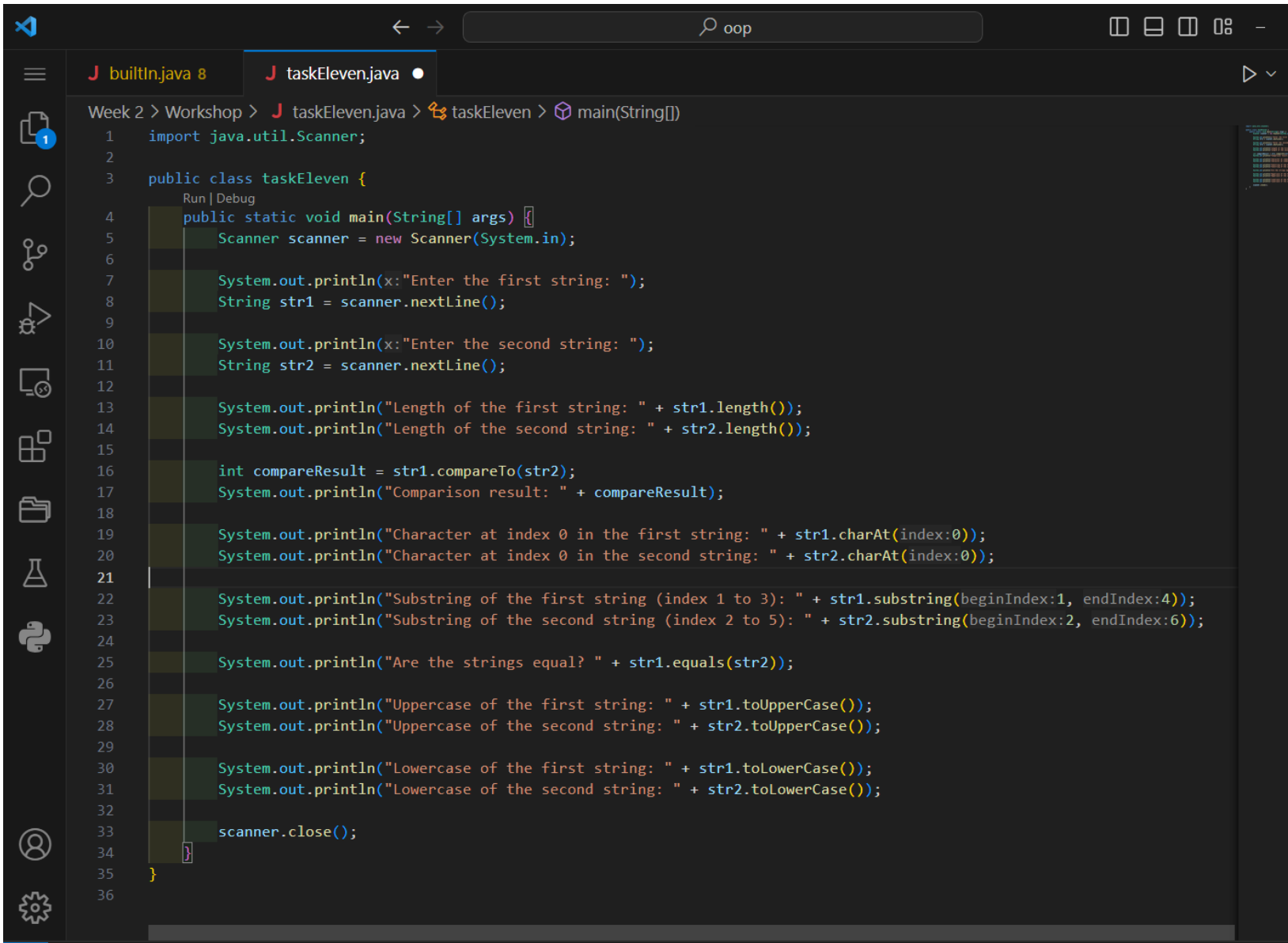
10. Run the code below and observe how the break statement works.

```
class Student {
    public static void main(String[] args) {
        int roll_no = 12;
        switch (i) {
            case 1:
                System.out.println("Your roll number is 10");
                break;
            case 2:
                System.out.println("Your roll number is 12");
                break;
            default:
                System.out.println("Your roll number is greater than 12");
        }
    }
}
```



11. Write a program to take two string user input and perform the following string methods and observe the result

a) length()
b) compareTo()
c) charAt()
d) substring()
e) Equals
f) toUpperCase()
g) toLowerCase()



```
ollege\semester 3\oop\Week 2\Workshop\" ; if ($?) { javac taskEleven
.java } ; if ($?) { java taskEleven }
Enter the first string:
Programming
Enter the second string:
Achivement
Length of the first string: 11
Length of the second string: 10
Comparison result: 15
Character at index 0 in the first string: P
Character at index 0 in the second string: A
Substring of the first string (index 1 to 3): rog
Substring of the second string (index 2 to 5): hive
Are the strings equal? false
Uppercase of the first string: PROGRAMMING
Uppercase of the second string: ACHIVEMENT
Lowercase of the first string: programming
Lowercase of the second string: achivement
PS C:\Herald College\semester 3\oop\Week 2\Workshop>
```