

Experiment with the code below changing the value of number and adding more print statements with boolean expressions to determine if the numbers 5, 6, and 7 are prime. Are all odd numbers prime? Are all even numbers not prime?

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7/12/2024, 4:49:23 PM - 2 of 2

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Pair?

```
1 //Code by Akshat Garg
2 public class PrimeNumbers
3 {
4     public static void main(String[] args)
5     {
6         int number = 5;
7         System.out.println("A prime number is only divisible by 1 and itself.");
8         System.out.println("Is " + number + " divisible by 1 up to " + number + "?");
9         System.out.println("Divisible by 1? " + (number % 1 == 0));
10        System.out.println("Divisible by 2? " + (number % 2 == 0));
11        System.out.println("Divisible by 3? " + (number % 3 == 0));
12        System.out.println("Divisible by 4? " + (number % 4 == 0));
13        System.out.println("Divisible by 5? " + (number % 5 == 0));
14        System.out.println("Divisible by 6? " + (number % 6 == 0));
15        System.out.println("Divisible by 7? " + (number % 7 == 0));
16        System.out.println("Divisible by 8? " + (number % 8 == 0));
17    }
18 }
19 }
20
21
```

```
A prime number is only divisible by 1 and itself.
Is 5 divisible by 1 up to 5?
Divisible by 1? true
Divisible by 2? false
Divisible by 3? false
Divisible by 4? false
Divisible by 5? true
Divisible by 6? false
Divisible by 7? false
Divisible by 8? false
```

Result	Expected	Actual	Notes
Pass	true	true	Checking that code contains boolean check for divisibility by 6
Pass	true	true	Checking that code contains boolean check for divisibility by 7
Pass	true	true	Checking that code has been changed

You got 3 out of 3 correct. 100.00%

Activity: 3.1.4.1 ActiveCode (challenge3-1-primeNumbers)

Challenge-3-5-truthtables: Test your boolean expression in an if statement below.

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7/12/2024, 4:52:39 PM - 3 of 3

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```
1 //Code by Akshat Garg
2 public class TruthTable
3 {
4     public static void main(String[] args)
5     {
6         // Test multiple values for these variables
7         boolean sunny = false;
8         int temperature = 90;
9         boolean raining = false;
10        if (sunny || (temperature > 80 && !raining)) {
11            System.out.println("Go to the beach!");
12        }
13        // Write an if statement for: If it's sunny,
14        // OR if the temperature is greater than 80
15        // and it's not raining, "Go to the beach!"
16
17    }
18 }
19
20
```

Go to the beach!

Result	Expected	Actual	Notes
Pass	Go to the beach!	Go to the beach!	Prints Go to the beach! with initial input (sunny = false; temperature = 90; raining = false;)
Pass	true	true	Checking that code contains conditional: if
Pass	true	true	Checking that code contains conditional: temperature greater than 80
Pass	true	true	Checking that code contains and
Pass	true	true	Checking that code contains or

You got 5 out of 5 correct. 100.00%

Activity: 3.5.4.1 ActiveCode (challenge3-5-truthtables)

Fun small activities, works well in understanding the order of logical operations with parentheses and conditional statement outputs.