

Department of Computer Science

420-101-VA Programming 1

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Week 6 part 2: for Statement, break and continue

1. Write a Java program that adds the integers from 1 to 20 in this order to sum until sum is greater than or equal to 100. (use break)

Sample output:

The number is 14

The sum is 105

Without the if statement, the program calculates the sum of the numbers from 1 to 20.

Sample Output:

The number is 20

The sum is 210

Modify the program so it adds all the integers from 1 to 20 except 10 and 11 to sum. (use continue)

Sample Output:

The sum is 189

Without the if statement in the program, all the numbers are added to sum, even when number is 10 or 11.

Sample Output:

The sum is 210

2. Write a program that randomly generates an integer between 0 and 100, inclusive. The program prompts the user to enter a number continuously until the number matches the randomly generated number. For each user input, the program tells the user whether the input is too low or too high, so the user can choose the next input intelligently
3. Write a java program that asks the user for a value. Based on this value please use nested for-loop to draw a right-triangle that has the length and the width of the value specified by the user. Make sure that this right-triangle's vertical side is facing right, and its hypotenuse is facing left.

sample outputs:

Please enter a value for the size: 8

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      *
     **
    ***
   ****
  *****
 *****
*****
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4. Write a for loop that calculates the total of the following series of numbers:

$$\frac{1}{30} + \frac{2}{29} + \frac{3}{28} + \dots + \frac{30}{1}$$

5. A right triangle can have sides whose lengths are all integers. The set of three integer values for the lengths of the sides of a right triangle is called a Pythagorean triple. The lengths of the three sides must satisfy the relationship that the sum of the squares of two of the sides is equal to the square of the hypotenuse. Write an application that displays a table of the Pythagorean triples for side1, side2 and the hypotenuse, all no

larger than 500. Use a triple-nested for loop that tries all possibilities.

Side 1	Side 2	Hypotenuse
3	4	5
4	3	5
5	12	13
6	8	10
7	24	25
8	6	10
8	15	17
9	12	15
9	40	41
10	24	26
11	60	61
12	5	13
12	9	15
12	16	20
12	35	37
13	84	85
14	48	50