

CS 112 Assignment 5a

Submit your finished code to the Dropbox. You will need to pass off the assignments with the TA or tutor during their office hours (their information is in the CS 112 Course Information section of the Table of Contents), or the instructor in class. Follow the formatting guide which is also found in the CS 112 Course Information section.

Read the instructions carefully. Make sure your output matches the example run.

Program: Whole Numbers Divisible by 5

In this program you will ask the user for two whole numbers (integers). Your program will then output every number between the two numbers (inclusive of both) that is divisible by 5. Remember that when a number is divisible by 5, that means that it can be divided by 5 and the result is an exact whole number (no remainder).

Evaluation walk through:

Let's say a user entered the numbers 7 and 15. Let's determine which numbers would be output.

Evaluate all numbers between and including 7 and 15

- evaluate 7 – not divisible by 5.
- evaluate 8 – not divisible by 5.
- evaluate 9 – not divisible by 5.
- evaluate 10 – divisible by 5! Print this number!
- evaluate 11 – not divisible by 5.
- evaluate 12 – not divisible by 5.
- evaluate 13 – not divisible by 5.
- evaluate 14 – not divisible by 5.
- evaluate 15 – divisible by 5! Print this number!

In this case the program would have only displayed two numbers (10 and 15).

Key program requirements:

- Your program must evaluate all numbers between and including the two user specified numbers.
- Your program must only output numbers that are exactly divisible by 5 (no remainder).
- Your program must perform input validation on the two numbers entered by the user to ensure both are integers.
- Your program must use while loops for input validation and a for loop to evaluate which numbers are divisible by 5.

Ponder – Discuss the following questions with your partner. Failure to discuss these questions before you attempt to pass off your program will result in a failed pass off.

- Discussion question 1: Why do you think the instructions require you to use a for loop when evaluating which numbers are divisible by 5?
- Discussion question 2: Since it's possible to accomplish the same result with a while loop, how would you construct a while loop to evaluate which numbers are divisible by 5? (i.e. how would you use a while loop instead of the required for loop?)

Example Run

In this program, we will print out a series of numbers divisible by 5.
You will determine the range of numbers to be considered.

Please enter the Beginning Number: cow
Invalid response. Please enter a whole number.

Please enter the Beginning Number: 7
Please enter the Ending Number: 45

Here are the numbers between 7 and 45 that are divisible by 5:

10
15
20
25
30
35
40
45
>>>