

More programming challenges to practice writing various types of loops (REPETITION CONTROL STRUCTURE) WK7

1. The Least of These

Write a program with a loop that lets the user enter a series of integers, followed by -9 to signal the end of the series. After all the numbers have been entered, the program should display the smallest number entered.

2. The Greatest of These

Write a program with a loop that lets the user enter a series of integers, followed by -9 to signal the end of the series. After all the numbers have been entered, the program should display the largest number entered.

3. The Greatest and Least of These

Write a program with a loop that lets the user enter a series of integers, followed by -9 to signal the end of the series. After all the numbers have been entered, the program should display the largest and the smallest numbers entered.

4. Find Duplicates

Write a program with a loop that lets the user enter a series of integers, followed by -9 to signal the end of the series. After all the numbers have been entered, the program should display the following information:

- a) Total count of whole numbers entered
- b) The total number of 9's entered or the lack thereof
- c) The first and last position where a 9 was entered.

5. Random Number Guessing Game (EXTRA CREDIT) – due not later than 3/07/23 submit via CANVAS site

Write a program that generates a random number between 5 and 15 and asks the user to guess what the number is. If the user's guess is higher than the random number, the program should display "Too high. Try again." If the user's guess is lower than the random number, the program should display "Too low, Try again." The program should use a loop that repeats while keeping a count of the number of guesses the user makes until the user correctly guesses the random number. Then the program should display the number of guesses along with the following message "Congratulations. You figured out my number." Suggest that you also give the user the opportunity to play the game again or quit. See sample "career_predictor.cpp" program for set-up and implementation of random numbers in your program above.

1. Line pattern#1

Write a C++ program that uses a single loop to display the fixed-size line pattern shown below.

XXXXXXX

2. Line pattern#2

Write a C++ program that uses a single loop to display the fixed-size line pattern shown below.

X=====X | (note* five = inside the line)

3. Line pattern#3

Write a C++ program that uses a single loop to display the fixed-size line pattern shown below.

| | (note* five whitespaces inside the line)

4. Filled box: Write a C++ program that uses nested loops to display the fixed-size box pattern shown below.

XXXXXX

XXXXXX

XXXXXX

XXXXXX

XXXXXX

5. Hollow box: Write a C++ program that uses nested loops to display the fixed-size box pattern shown below.

XXXXXX

X X

X X

X X

XXXXXX

6. Triangle1 Display:

Write a C++ program that uses nested loops to display the fixed-size triangle pattern shown below.

+

+++

+++++

++++++

+++++++

+++++++

+++++++

7. Triangle2 Display: Write a C++ program that uses nested loops to display the fixed-size triangle pattern shown below.

+++++++

+++++++

+++++++

+++++++

+++++

+++

+

8. Triangle3 Display

Write a C++ program that uses nested loops to display the fixed-size triangle pattern shown below.

+

+++

+++++

++++++

+++++

+++

+

9. Triangle4 Display

Write a C++ program that uses nested loops to display the fixed-size triangle pattern shown below.

+

+++

+++++

++++++

+++++

+++

+