**For While Do while Break Continue Assignment**

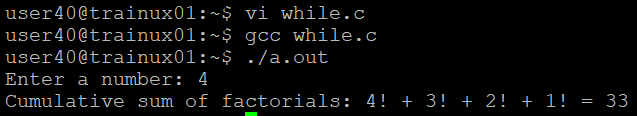
**WAP to read a number n and to display the cumulative sum of factorial of all numbers upto n . (use for or while)**

Input: 4

Ouput: 4!+3!+2!+1! = 32

A screen shot of a computer program

Description automatically generated



**2. Write a program to accept “N” integers from the user. “N” also has to be taken from the user. Take the count of +ve numbers, -ve numbers and 0’s.**

However the program should not accept a non-integer value. If a non-integer value is entered, used must be asked to re-enter.

[Hint:

a**. Use the return value of scanf to find out whether the user has entered integer or not.**

**b. You also will have to clear the input buffer before taking the next input.**

**For clearing the input buffer, use one of the following approaches**

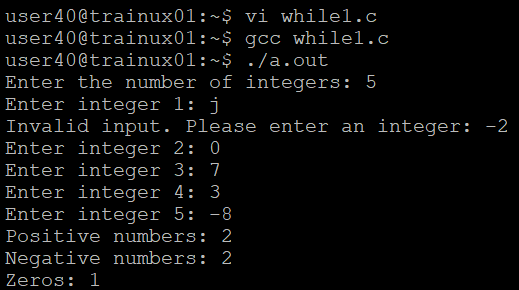
**while (getchar() != '\n'); // keep reading till newline and discard the characters**

**scanf(“%\*s”); // read and discard one string**

]

A screen shot of a computer program

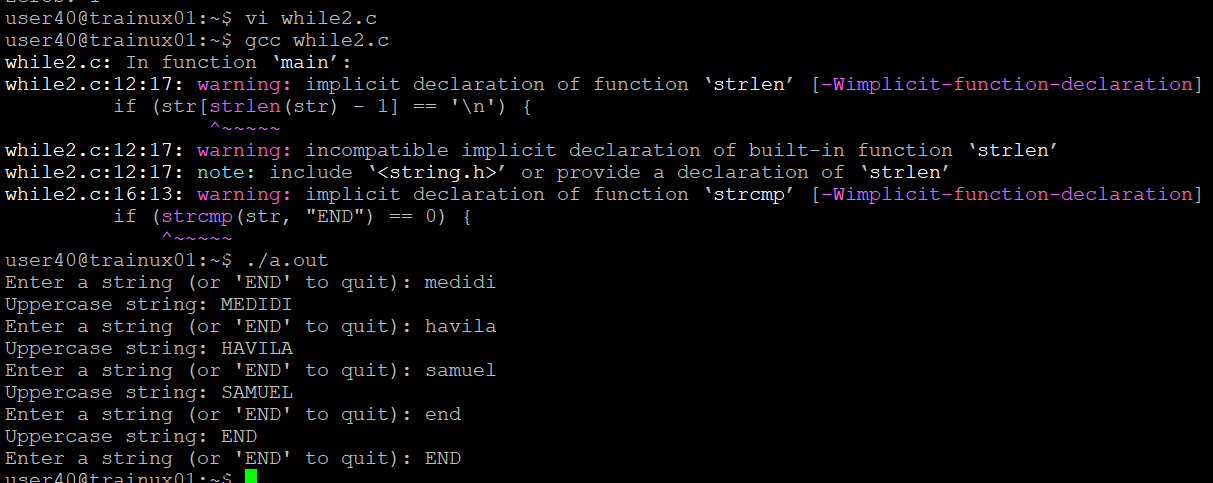
Description automatically generated



3**. Write a program to continuously read a string of maximum length 80 chars, End the program if string is END, else convert to upper case, display and continue. (use while)**

A screenshot of a computer program

Description automatically generated

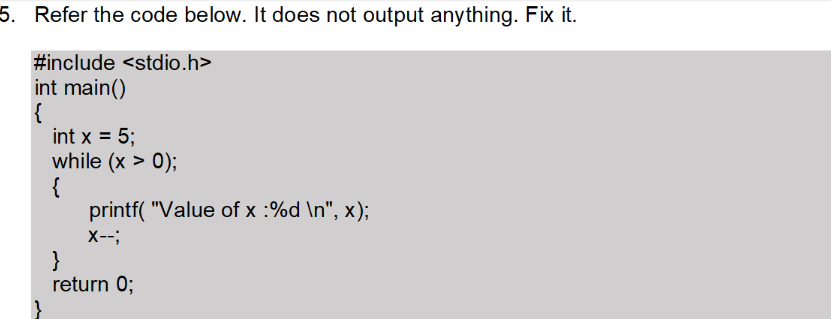


**4. Refer the program “value\_out\_of\_domain.c”. Try to run the program with a large value say 255. Check the output? Is it correct? Fix the issue observed.**

**What improvements do you suggest?**

* 20! is 2,432,902,008,176,640,000, which fits into unsigned long long.
* But 255! is much larger, and the result would exceed the storage limits of unsigned long long, causing incorrect results or overflow

The factorial of 255 is a huge value which cannot be stored in int type which holds only 4 bytes with a range of -2,147,483,648 to 2,147,483,647. So store such a large values we need to define an array with large size like array[1000] that holds the value



The original code has a semicolon (;) after the while loop condition, causing the body of the loop to be skipped, and the loop effectively does nothing.

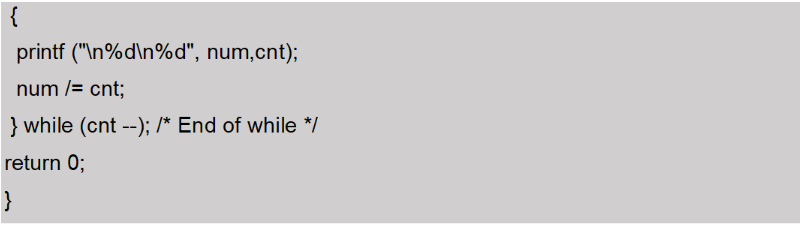
A screen shot of a computer

Description automatically generated

A screen shot of a computer

Description automatically generated

A grey rectangular object with black text

Description automatically generated

The variables cnt and num are declared as floats but they are given format specifiers as %d. It can be rectified by taking %f as format specifiers.

A screen shot of a computer program

Description automatically generated

A black screen with text

Description automatically generated