Lab 4 (06 questions)

Ex1: write a program that keeps prompting the user to input a non-negative integer. The program should stop when the input is negative.

Sample run:

Enter a number: 12

Enter a number: 0

Enter a number: 26

Enter a number: 5

Enter a number: -1

Ex2: write a program that keeps prompting the user to input a non-negative integer. The program should stop when the input is negative and it prints out the maximum integer input.

Sample run:

```
Enter a number: 12

Enter a number: 0

Enter a number: 26

Enter a number: 5

Enter a number: -1

The maximum number is 26
```

Ex3: Write a C program that calculates the sum of integers between 9 and 300 inclusive which are divisible by 7 but not divisible by 63.

Sample run:

Sum of integers between 9 & 300 that are divisible by 7 but not by 63 is 5684

Ex4: Write a C program that accepts integers from the keyboard until we enter a zero or a negative number. The program will output the number of positive values entered, the minimum value, the maximum value and the average of all numbers.

Sample run:

```
Enter a positive integer: 6

Enter a positive integer: 3

Enter a positive integer: 2

Enter a positive integer: -4

Number of positive values entered is 3

Maximum value entered is 6

Minimum value entered is 2

Average value is 3.6667
```

Ex5: Suppose a program is to read in an integer value representing the age of a person. It makes sense that the value should be within a reasonable range, say 1 to 100 inclusive. If the user enters an invalid input outside this range, the program should ask for the age again.

Write a program validate.c to perform this, and also to count how many times the users has entered the input.

Sample run:

Enter age: 17

Your age is 17.

Number of attempts = 1

Enter age: -5

Enter age: 101

Enter age: 32

Your age is 32.

Number of attempts = 3

Ex6: Write a program which asks for an input of a positive integer (n). Print out the factorial of n (n!)

If users enter a negative number, prompt the use to enter a different number.

Note: 0! = 1

Sample run 1:

```
Enter a number: 0
0! = 1
```

Sample run 2:

```
Enter a number: 3
3! = 6
```

Sample run 3:

```
Enter a number: -1
You should enter a positive number!
Enter a number: -2
You should enter a positive number!
Enter a number: 2
2! = 2
```