Assignment 1

Topics: Variables, Input output

A1.1

Use the printf function to print the “Hello World” message. Modify the message so that it can print a newline(\n) at the end as well.

A1.2

Read diameter of some circle from user using the scanf function. Calculate and print the area and perimeter of the circle.

A1.3

Read Integer N and print the First 3 Powers (i.e. N, N^2, N^3)

A1.4

Read two integers (say, x and y) from the user and print the value of x/y. What happens when the value for y is given as 0?

A1.5

Swap the values of two integer variables.

a. Using a temporary variable
b. [Bonus] Without using any temporary variables

A1.6

Create one variable of all different datatypes you know

a. Display the sizes of all the variables (hint: use sizeof operator)
b. Print each variable using proper format specifiers (hint: see this link)
c. Print memory address of all variables (hint: use &<variable_name> and %p as format specifier in printf function)
d. [Bonus] Create a pointer variable for each type and store the address of the variables in corresponding pointer variables
e. [Bonus] Print the value of the actual variable by the use of pointer variables
f. [Bonus] How do you print the % character and \ character itself?

A1.7

Use limits.h to display the limiting values for different data types (to know what limits.h is you can check this example, and this link, or you can do a quick google search)

A1.8 [Bonus]
Print the ASCII value of a character given as input (hint: print each character using %d instead of %c)

A1.9 [Bonus]
Create a user defined datatype (more than one member variables should be present) using structure concept and do the following

a. Display the size of the new type (using sizeof operator)
b. Create three variables
c. One variable should be initialized while declaring
d. Values for the second variable should be assigned by taking input from the user
e. Copy the value of the first variable to the third one
f. Print the values of all the variables