Basic Introductory Problems

(Total 15 questions)

<table>
<tr><th>SL</th><th>Problem statement</th><th>Difficulty levels</th></tr>
<tr><td>1.</td><td>Program that will print “Hello World”.

<table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>Hello World</td></tr></table></td><td>*</td></tr>
<tr><td>2.</td><td>Program that will use newline/tab and print the following segment:

<table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>Hello World.
This is my first program. C is fun.</td></tr></table></td><td>*</td></tr>
<tr><td>3.</td><td>Program that will print the following segment:

<table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>The question is - “How to write a
\comment/ in C programming language?”</td></tr></table></td><td>*</td></tr>
<tr><td>4.</td><td>Program that will declare an integer, a floating point number, a character. Then it will initialize them with values and print those values.

<table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>The integer value: 5
The floating point value: 3.141593
The character value: a</td></tr><tr><td></td><td>The integer value: 100
The floating point value: 1.618000
The character value: z</td></tr></table></td><td>*</td></tr>
<tr><td>5.</td><td>Program that will do the followings:
a) Declare a variable uninitialized
b) Declare and initialize a variable in one statement
c) Declare and initialize multiple variables with different values in one statement
d) Declare and initialize multiple variables with the same value in one statement</td><td>*</td></tr>
</table>

6. Program that will take your age in year(s) as input and print it. *

Sample input	Sample output
20	My age is: 20
21	My age is: 21

7. Program that will receive the values of an integer, a floating point number, a character from the keyboard and print those values. *

Sample input	Sample output
5 3.141593 A	The integer value: 5 The floating point value: 3.141593 The character value: a
100 1.618 z	The integer value: 100 The floating point value: 1.618000 The character value: z

8. Program that will take three integer numbers from keyboard but assign only the first and last inputs to variables and skip any assignment of the middle one. **

Sample input	Sample output
20 50 100	First Value = 20, Last Value = 100
33 75 22	First Value = 33, Last Value = 22

9. Program that will declare a variable from each data type: double, boolean. Then it will initialize them with values and print them. *

Sample input	Sample output
	The double value: 3.140000e+00 The boolean value: 1
	The double value: 1.618039 The boolean value: 0

10. Program that will declare a variable from each data type: long int, long long int, long double, short int. Then it will initialize them with values and print them. **

Sample input	Sample output
	The long int value: 2147483647 The long long int value: 9223372036854775807 The long double value: 1.1E+4932 The short int value: 32767

		The long int value: -2,147,483,648 The long long int value: -9223372036854775808 The long double value: 3.4E-4932 The short int value: -32768	
11.	Program that will declare a variable from each data type: unsigned int, unsigned long int, unsigned long long int, unsigned short int. Then it will initialize them with values and print them.		**
	Sample input	**Sample output**	
		The unsigned int value: 4294967295 The unsigned long int value: 4294967295 The unsigned long long int value: 18446744073709551615 he unsigned short int value: 65,535	
		The unsigned int value: 0 The unsigned long int value: 0 The unsigned long long int value: 0 The unsigned short int value: 0	
12.	Program that will define a constant using “CONST” and print the value.		**
	Sample input	**Sample output**	
		The value of pi: 3.14	
		The value of golden ratio: 1.62	
13.	Program that will define a constant using “DEFINE” and print the value.		**
	Sample input	**Sample output**	
		The value of HEIGHT: 200	
		The value of PI: 3.14	
14.	Program that will define a global and a local variable with the same name but with different values, and then do the following steps <u>in order</u>- A. Print the value of the variable before defining the local variable B. Print the value of the variable after defining the local variable C. Explicitly print the value of the variable as global		**
	Sample input	**Sample output**	
		A. Global: 10 B. Local: 20 C. Global: 10	
15.	Program that will take an floating point number as input from the keyboard and use *printf*		**

function to perform the followings:

(a) Print the number right justified within 10 columns
(b) Print the number to be right justified to 2 columns (Assuming the input has more than 2 digits)
(c) Print the number rounded to two decimal places
(d) Print the number rounded to integer (without using conversion or type casting)
(e) Prints the number in exponential notation/scientific notation

Sample input	**Sample output**
123.098	(a) Val: 123.098000 (b) Val:123.098000 (c) Val:123.10 (d) Val:123 (e) Val: 1.230980e+02