

Basic Introductory Problems

(Total 15 questions)

SL	Problem statement	Difficulty levels						
1.	Program that will print “Hello World”.	*						
	<table><tr><td>Sample input</td><td>Sample output</td></tr><tr><td></td><td>Hello World</td></tr></table>		Sample input	Sample output		Hello World		
	Sample input		Sample output					
	Hello World							
2.	Program that will use newline/tab and print the following segment:	*						
	<table><tr><td>Sample input</td><td>Sample output</td></tr><tr><td></td><td>Hello World. This is my first program. C is fun.</td></tr></table>		Sample input	Sample output		Hello World. This is my first program. C is fun.		
	Sample input		Sample output					
	Hello World. This is my first program. C is fun.							
3.	Program that will print the following segment:	*						
	<table><tr><td>Sample input</td><td>Sample output</td></tr><tr><td></td><td>The question is - “How to write a \comment/ in C programming language?”</td></tr></table>		Sample input	Sample output		The question is - “How to write a \comment/ in C programming language?”		
	Sample input		Sample output					
	The question is - “How to write a \comment/ in C programming language?”							
4.	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><td>Sample input</td><td>Sample output</td></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>		Sample input	Sample output		The integer value: 5 The floating point value: 3.141593 The character value: a		The integer value: 100 The floating point value: 1.618000 The character value: z
	Sample input		Sample output					
	The integer value: 5 The floating point value: 3.141593 The character value: a							
	The integer value: 100 The floating point value: 1.618000 The character value: z							
5.	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	*						

6.	Program that will take your age in year(s) as input and print it.	*										
<table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td>20</td><td>My age is: 20</td></tr><tr><td>21</td><td>My age is: 21</td></tr></table>		Sample input	Sample output	20	My age is: 20	21	My age is: 21					
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.	*										
<table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td>5</td><td>The integer value: 5</td></tr><tr><td>3.141593</td><td>The floating point value: 3.141593</td></tr><tr><td>A</td><td>The character value: a</td></tr><tr><td>100 1.618 z</td><td>The integer value: 100 The floating point value: 1.618000 The character value: z</td></tr></table>		Sample input	Sample output	5	The integer value: 5	3.141593	The floating point value: 3.141593	A	The character value: a	100 1.618 z	The integer value: 100 The floating point value: 1.618000 The character value: z	
Sample input	Sample output											
5	The integer value: 5											
3.141593	The floating point value: 3.141593											
A	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 <u>skip</u> any assignment of the middle one.	**										
<table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td>20 50 100</td><td>First Value = 20, Last Value = 100</td></tr><tr><td>33 75 22</td><td>First Value = 33, Last Value = 22</td></tr></table>		Sample input	Sample output	20 50 100	First Value = 20, Last Value = 100	33 75 22	First Value = 33, Last Value = 22					
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.	*										
<table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>The double value: 3.140000e+00 The boolean value: 1</td></tr><tr><td></td><td>The double value: 1.618039 The boolean value: 0</td></tr></table>		Sample input	Sample output		The double value: 3.140000e+00 The boolean value: 1		The double value: 1.618039 The boolean value: 0					
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.	**										
<table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>The long int value: 2147483647 The long long int value: 9223372036854775807 The long double value: 1.1E+4932 The short int value: 32767</td></tr></table>		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							
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											

	<div><div></div><div>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</div></div>							
11.	<div>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.</div> <table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>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</td></tr><tr><td></td><td>The unsigned int value: 0 The unsigned long int value: 0 The unsigned long long int value: 0 The unsigned short int value: 0</td></tr></table>	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	**
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.	<div>Program that will define a constant using “CONST” and print the value.</div> <table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>The value of pi: 3.14</td></tr><tr><td></td><td>The value of golden ratio: 1.62</td></tr></table>	Sample input	Sample output		The value of pi: 3.14		The value of golden ratio: 1.62	**
Sample input	Sample output							
	The value of pi: 3.14							
	The value of golden ratio: 1.62							
13.	<div>Program that will define a constant using “DEFINE” and print the value.</div> <table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>The value of HEIGHT: 200</td></tr><tr><td></td><td>The value of PI: 3.14</td></tr></table>	Sample input	Sample output		The value of HEIGHT: 200		The value of PI: 3.14	**
Sample input	Sample output							
	The value of HEIGHT: 200							
	The value of PI: 3.14							
14.	<div>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</div> <table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>A. Global: 10 B. Local: 20 C. Global: 10</td></tr></table>	Sample input	Sample output		A. Global: 10 B. Local: 20 C. Global: 10	**		
Sample input	Sample output							
	A. Global: 10 B. Local: 20 C. Global: 10							

15.	<p>Program that will take an floating point number as input from the keyboard and use <i>printf</i> function to perform the followings:</p> <p>(a) Print the number right justified within 10 columns</p> <p>(b) Print the number to be right justified to 2 columns (Assuming the input has more than 2 digits)</p> <p>(c) Print the number rounded to two decimal places</p> <p>(d) Print the number rounded to integer (without using conversion or type casting)</p> <p>(e) Prints the number in exponential notation/scientific notation</p> <table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td>123.098</td><td>(a) Val: 123.098000 (b) Val:123.098000 (c) Val:123.10 (d) Val:123 (e) Val: 1.230980e+02</td></tr></table>	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	**
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					