

Basic Introductory Problems

(Total 15 questions)

SL	Problem statement	Difficulty levels						
1.	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>		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><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>		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><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>		Sample input	Sample output		The question is - “How to write a \comment/ in C programming language?”		
	Sample input		Sample output					
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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><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>		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	
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3.141593	The floating point value: 3.141593											
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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											
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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><tr><td></td><td>The long int value: -2,147,483,648 The long long int value: -9223372036854775808</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		The long int value: -2,147,483,648 The long long int value: -9223372036854775808					
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11.	<p>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.</p> <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	**
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12.	<p>Program that will define a constant using “CONST” and print the value.</p> <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.	<p>Program that will define a constant using “DEFINE” and print the value.</p> <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.	<p>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>-</p> <p>A. Print the value of the variable before defining the local variable</p> <p>B. Print the value of the variable after defining the local variable</p> <p>C. Explicitly print the value of the variable as global</p> <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>	**						

- (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