# 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”.<br><br><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:<br><br><table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>Hello World.<br>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:<br><br><table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>The question is - “How to write a<br>\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.<br><br><table><tr><th>Sample input</th><th>Sample output</th></tr><tr><td></td><td>The integer value: 5<br>The floating point value: 3.141593<br>The character value: a</td></tr><tr><td></td><td>The integer value: 100<br>The floating point value: 1.618000<br>The character value: z</td></tr></table></td><td>*</td></tr>
<tr><td>5.</td><td>Program that will do the followings:<br>a) Declare a variable uninitialized<br>b) Declare and initialize a variable in one statement<br>c) Declare and initialize multiple variables with different values in one statement<br>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<br>3.141593<br>A | The integer value: 5<br>The floating point value: 3.141593<br>The character value: a |
| 100 1.618 z | The integer value: 100<br>The floating point value: 1.618000<br>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<br>The boolean value: 1 |
| | The double value: 1.618039<br>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<br>The long long int value: 9223372036854775807<br>The long double value: 1.1E+4932<br>The short int value: 32767 |

| | | | |
|---|---|---|---|
| | | The long int value: -2,147,483,648<br>The long long int value: -9223372036854775808<br>The long double value: 3.4E-4932<br>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.<br><br>**Sample input** / **Sample output**<br>The unsigned int value: 4294967295<br>The unsigned long int value: 4294967295<br>The unsigned long long int value: 18446744073709551615<br>he unsigned short int value: 65,535<br><br>The unsigned int value: 0<br>The unsigned long int value: 0<br>The unsigned long long int value: 0<br>The unsigned short int value: 0 | | ** |
| **12.** | Program that will define a constant using "CONST" and print the value.<br><br>**Sample input** / **Sample output**<br>The value of pi: 3.14<br>The value of golden ratio: 1.62 | | ** |
| **13.** | Program that will define a constant using "DEFINE" and print the value.<br><br>**Sample input** / **Sample output**<br>The value of HEIGHT: 200<br>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>-<br>A. Print the value of the variable before defining the local variable<br>B. Print the value of the variable after defining the local variable<br>C. Explicitly print the value of the variable as global<br><br>**Sample input** / **Sample output**<br>A. Global: 10<br>B. Local: 20<br>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:<br><br>(a) Print the number right justified within 10 columns<br>(b) Print the number to be right justified to 2 columns (Assuming the input has more than 2 digits)<br>(c) Print the number rounded to two decimal places<br>(d) Print the number rounded to integer (without using conversion or type casting)<br>(e) Prints the number in exponential notation/scientific notation<br><br>**Sample input** \| **Sample output**<br>123.098 \| (a) Val: 123.098000<br>(b) Val:123.098000<br>(c) Val:123.10<br>(d) Val:123<br>(e) Val: 1.230980e+02 | ** |