# 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> | * |
| 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.<br>This is my first program.        C is fun.</td></tr></table> | * |
| 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> | * |
| 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<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> | * |
| 5. | 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 | * |

| 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>\|---\|---\|<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>\| \| 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>\|---\|---\|<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>\|---\|---\|<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>\|---\|---\|<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: | ** |
|---|---|---|

(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 |