Q. 1 True or False

1. In C Programming language, any function can call any function except **main** it could not be called by any other function. (✓)
2. Control always return to the caller when the function terminates normally (✓)
3. If you don't initialize an array of integers, the elements of that array will be set by zero values. (✗)
4. We can't change the array size during the program execution (✓)
5. Using array is better than declaring variable because it saves memory ( )
6. Array of character may not end with null character if we are going to deal with it character by character (✓)
7. We can change the array size during the program execution. (✗)

Q. 2 Select the correct answer(s)

1. char *ch;
   *ch = 'c';
   printf("%c", *ch);

   The output of this program will be:
   a) 'c'
   b) Address of ch
   c) The program may not execute properly

2. for(I < 5 ; I = 0 ; I++)
   {
           printf("%d", I);
   }

   If I is an integer and initialize to 1. What will be the output?
   a) 1234
   b) 12345
   c) 15
   d) Nothing
   e) The compiler will generate an error

3. int *ptr;
   int ar[2];
   ptr = ar;
   ptr++;
   ar++;

   a) ptr equals ar
   b) ptr doesn't equal ar
   c) the compiler will generate an error

4. In the array below, how can you access the element which has the value 4:
           int Arr[3][3] = { {1, 2, 3} , {4, 5, 6} , {7, 8, 9} };

   a) Arr[0][0]
   b) Arr[0][1]

c) Arr[1][0]
d) Arr[1][1]

5. A structure is a collection of variables of:

   a) Different data types scattered throughout memory.
   b) The same data types scattered throughout memory.
   c) The same data type placed next to each other in memory.
   d) Different data types placed next to each other in memory.

6. *it is recommended to use do while* loop when

   a) The terminating condition occurs unexpectedly
   b) The body of the loop will be executed at least once
   c) The program will be executed at least once
   d) The body of the loop will be executed a predefined number of times

7. Which of the following are correct ways to refer to the variable ch, assuming the address of ch has been assigned to the pointer fingerch?

   a) * fingerch;
   b) int *fingerch;
   c) *finger;
   d) *ch;

8. What does the following program segment do?
   int numb;
   do {
        scanf("%d", &numb);
   } while (numb < 1 && numb > 10);

   a) Reads an integer in the range [1, 10]
   b) Reads an integer out of range [1, 10]
   c) Reads an integer other than 1 and 10
   d) Non of the above

9. Which of the following is best suited for representing a Matrix with 3 Rows and 3 Columns?
   a) One-Dimensional Array
   b) Two-Dimensional Array
   c) Three-Dimensional Array
   All of the above

10. Which of the following best describes the purpose of function prototype?

    d) Prototype is an instruction for the compiler to include the stdio.h

       header file

e) A prototype makes a forward declaration of a function, so subsequent code referring to that function can be linked to it by the linker

f) A prototype makes a forward declaration of a function, so subsequent code referring to that function can be checked by the compiler for the correct number and type of arguments of that function

g) A prototype is used to call a function

11. *int myArray[] = {1,2,3,10,20,30};*
Referring to the sample code above, what dimension will automatically be calculated for my Array?
   a) 6
   b) 7
   c) 12
   d) This is not a valid array initialization and will not compile

12. When you run the following piece of code, the output will be:
```
for (i=0 ; i <=10 ;  i += 5)
{
   printf ("i = %d \t " ,  i+1);
}
```
a- i = 0   i = 5   i =10
b- i =1   i = 6   i = 11
c- i =1   i = 6
d- i =1   i =2   i =3

Q. 3 Design and implement the following functions using C Programming Language

1. Write a function that draw the following on the screen

```
         *
         **
  n      ***
         ****
         *****
```
Where n is given by the user

2. Write a function that calculates the division of two integer numbers. The user can enter any integer number for both numbers (No Restriction on any one).
After finishing the function, write 2 sentences for the user on how to use the function (the parameters, and the return type).
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Best Wishes