FINAL

FOR CRN 15751 - 12600

JANUARY 9, 2019

Solve the given six questions using an online C compiler. You can ask for help from any internet source, however it is strictly banned to request or receive help from your classmates. Always create at least one C code file for each question. All files must be zipped and uploaded to Ninova within the final hour.

CONSECUTIVE NUMBERS

Write a program that finds the sum of the consecutive numbers. First, the program should ask three integers as a user input: start number, end number and difference between each consecutive numbers. The program should find all the consecutive numbers between a to b, and print these numbers. Then, the program prints the sum of these consecutive numbers.

CONSECUTIVE NUMBERS

Write a program that prints the following patterns separately, one below the other. Use for loops to generate the patterns.

```
*                        *******
**                       ******
***          and         *****
****                     ****
*****                    ***
******                   **
*******                  *
```

FUNCTION

Write a code that asks a user input n. Then, write a function that takes this n number as an input, finds and returns:

$$\sum_{1}^{n} k^2 + 1$$

$2 + 5 + 10 + 17 + 26 + 37 + 50 + 65 + 82 + \ldots + ((n-1)^2+1) + (n^2+1)$

Then, print the result.

ARRAY: MEAN, MEDIAN AND MODE

Write a program that generates 20 random number and assign them in to an array. Then, find mean, median and mode of the array and print them.

• The mean is the arithmetic average of a set of values.

• The median is the "middle value" in a sorted set of values.

• The mode is the value that occurs most frequently in a set of values.

POINTER

What does the following program do?

```
1    /* ex07_26.c */
2    /* What does this program do? */
3    #include <stdio.h>
4
5    int mystery3( const char *s1, const char *s2 ); /* prototype */
6
7    int main( void )
8    {
9       char string1[ 80 ]; /* create char array */
10      char string2[ 80 ]; /* create char array */
11
12      printf( "Enter two strings: " );
13      scanf( "%s%s", string1 , string2 );
14      printf( "The result is %d\n", mystery3( string1, string2 ) );
15      return 0; /* indicates successful termination */
16   } /* end main */
17
18   int mystery3( const char *s1, const char *s2 )
19   {
20      for ( ; *s1 != '\0' && *s2 != '\0'; s1++, s2++ ) {
21
22         if ( *s1 != *s2 ) {
23            return 0;
24         } /* end if */
25      } /* end for */
26
27      return 1;
28   } /* end function mystery3 */
```

STURCT

Write a program that generates a struct array with 10 elements. Struct should include name, surname and a number. Initialize these values and print them.

Ex:

Name	Surname	Number
Mehmet	Hasanzade	5
Aykut	Çetin	6
.	.	.
.	.	.
.	.	.

Good luck ☺