

Homework- functions in C

Exercise 1:

Write a program using a float type AVERAGE function to display the arithmetic mean of two real numbers entered on the keyboard.

Exercise 2:

Write a MIN function that determine the minimum of two real numbers.

Write a program that enters N integer numbers and determine their minimum using the MIN function (without using array)

Exercise 3:

- Write a function *sum_dividers* that return the sum of the dividers of an integer n given as parameter.
- Write a function that tests if an integer is ABUNDANT (returns 1 if yes and 0 otherwise). The integer n is abundant when the sum of its divisors (including n itself) is greater than its double (2n). Example: 12 is abundant (1 + 2 + 3 + 4 + 6 + 12 > 24)
- Write a main function that takes 2 integers a and b and then displays the abundant numbers in the interval [a, b].

Exercise 4:

Write a program that builds and displays Pascal's triangle by calculating the binomial coefficients:

```
enter nb of lignes>=0: 6
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1

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Process exited after 5.407 seconds with return value 0
Press any key to continue . . .
```

We will not use an array, ie. It will be necessary to calculate the coefficients according to the formula below, while defining and using the adequate functions.

$$C_p^q = \frac{p!}{q! * (p - q)!}$$