C - Assignment 04 (100 pts)

Notes

Do the following for each exercise
- Create a main() function
- Use good variable names and coding style
- Include some simple comments

Exercise 01 (40 pts)

We suppose that we have the following array of 10 integers : {5, 24, 76, 1, 8, 53, 40, 7, 33, 10}. In a single for loop, deduce the biggest element, the smallest element, the index of the biggest element, the index of the smallest element and the average of the elements. Print them at the end of the program.

Notes:
- Define SIZE as 10 and use it in the for loop
- The average should include decimal points

Exercise 02 (30 pts)

Write a program that generates a 100 random integers between 0 and 9 and displays how many times each number appears.

Notes:
- 100 and 9 should be defined as symbolic constants
- The function rand() returns a random integer between 0 and at least 32767
- Hint: you need an array of 10 elements to solve this program
- Below is a skeleton code for generating random numbers in C

```c
#include <stdio.h>
#include <stdlib.h>
#include <time.h>


int main(void)
{
        srand(time(NULL));

        // Your program starts here...
}
```

Exercise 03 (30 pts)

We suppose that `arr` is an array of positive values, except two of them that are negative. Find the negative values and swap them with each other in the array, then print the array.

Notes:
- Define SIZE as 10 and use it in the for loop
- Fill the array in any way you want (make sure to include two negative values)