

COMP500 / ENSE501: Week 11 – Exercise:

EXERCISE NAME: `get_maximum`

Given the following source code:

```
1  #include <stdio.h>
2
3  double* get_maximum(double* a, int size);
4
5  int main(void)
6  {
7      double data[] = { 2.5, 3.14, 1.2, 7.6, 1.23, 7.7, 3.2 };
8
9      double* max_from_data = get_maximum(data, 7);
10
11     printf("The largest double in data is %f\n", *max_from_data);
12
13     return 0;
14 }
15
16 double* get_maximum(double* a, int size)
17 {
18     // TODO: Insert your code here...
19 }
```

Write a function that returns a pointer to the maximum value in an array of **double** variables. If the size of the array is zero, return a null pointer.

Add pre- and post-conditions to the `get_maximum` function.

Add another two array declarations and initialisations in the `main` function. Call `get_maximum` with the newly added arrays and print the results.

Ensure your source code compiles and follows good programming standards. Ensure your program is well tested.