

## HW2\_P2 - Return value by reference

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Submitted on :	Sep 16, 2018 07:36 am

solution.cpp

```
/* Problem Analysis
```

```
Given two integers, we have to average them and return a reference  
data type of the average
```

```
*/
```

```
/* Problem Design
```

```
1. Average the two numbers
```

```
(n1 + n2) / 2
```

```
2. Return the memory address of the average using & token
```

The trick here is knowing that the average variable has to be static. It must be static because we cannot return the variable memory address otherwise because it is volatile - it will be destroyed after the function is run. If it is static, the value will not be removed after the function is executed.

```
*/
```

```
#include<iostream>
```

```
#include <iomanip>
```

```
using namespace std;
```

```
double* findAverage(int n1, int n2){  
    static double avg = ((double) n1 + n2)/2;  
    return &avg; // fuck this dumb shit lol XD  
}
```

```
int main(){  
    int n1, n2;  
    cin >> n1;  
    cin >> n2;
```

```
    cout << fixed << setprecision(2) << *findAverage(n1, n2);  
}
```

---

**Name**

Custom test case

**Input**

5 6

**Output (Lines:2)**

5.50

**Expected Output (Lines:0)****Status**

NA

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**Name**

Custom test case

**Input**

60 213

**Output (Lines:2)**

136.50

**Expected Output (Lines:0)****Status**

NA

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**Name**

Custom test case

**Input**

37 88

**Output (Lines:2)**

62.50

**Expected Output (Lines:0)**

**Status**

NA

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**Name**

Default

**Input**

5 10

**Output (Lines:2)**

7.50

**Expected Output (Lines:1)**

7.50

**Status**

Pass

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