Instructions

1. You have to implement only one function per program. (You can choose any language for a program such as C,C++,Java,C#)

2. Do not make any changes in pre-written code of the function you are implementing.

3. Please implement the given function only. There is absolutely no need to write main()!

4.Try to write clean code with appropriate spacing and comments.

5. Mentioning the Time Complexity of your code in the bottom is a plus!

All the best !!

Program 1

You are a Property Dealer who earns 10% commission on every deal resulting in profit. You are given an array *LandPrice[]* where *LandPrice[i]* is the price of a given land on the i^{th} day. Return the maximum commission you can earn by buying a land on any particular day and selling it in the future at higher price.

Example:

Input: LandPrice[] = [700000, 100000, 500000, 300000]

Output: 40000

Explanation: Buy the land on Day 2 (at the price of 100000) and sell it on Day 3 (at the price of 500000) will give you a profit of 400000. And your commission will be 10%, which is 40000.

Note:

a) If the maximum earned profit is say 457894 then you only need to return 45789
(floor value of 45789.4).

b) You must buy before you sell i.e. in the given example it is not allowed to buy the land on Day 2 and sell it on Day 1(Bit Obvious!!!)

c) Return 0 if it is not possible to earn profit. Like in Example: [50000, 40000, 30000, 20000]

Answer

You can choose your preferred input Data Structure if you want to. Like ArrayList<Integer> in Java.
But please make sure that the return type of the function is int, and, name of the function and parameter matches with the below given template which is maxCommission and LandPrice respectively.

JAVA / C#

```
public int maxCommission(int[] LandPrice)
{

}
```

C

```
int maxCommission(int[] LandPrice)
{

}
```

C++

```
int maxCommission (vector<int>& LandPrice)
{

}
```

Program 2

Given a String S, find the length of the middle word. If the number of words are even, then there are two middle words, return whichever is more in length.

Example:

Input: Hexaview is Hiring.

Output: 2

Explanation: S contains 3 words, so middle word is 2nd i.e. “is”, and its length is 2.

Input: Hexaview Hires the Best.

Output: 5

Explanation: S contains 4 words, so, there are two middle words: “Hires” and “the”, “Hires” is more in length (5 compared to 3), hence output is 5.

NOTE: Assume that input will always contain at least 3 words ☺
Each word will be separated by space.

Mandatory Guidelines:

1) For this question, candidates are allowed to choose their own data type (char[], String)
2) Function Name should be ***getMaxMiddleLength()***
3) Instead of printing the output, return it. (Return type will be integer)
4) Please write only the method/methods which contain core logic of the program.
DO NOT WRITE the whole program (with all the header files and main() method).

* if (you_will_violate_the_4thguideline && we_are_in_bad_mood)
return 0;