Programming Fundamentals
LAB 10:
pointers

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1 Pointer

Explain the difference between given declarations and how to read them.

```
1 const int * p ;
2 int const * p ;
3 int * const q ;
```

For each of the following, write a single statement that performs the indicated task. Assume that foating point variables number1 and number2 have been declared and the number1 has been initialized to 7.3.

1. Declare the variable fPtr to be a pointer to an object of type double.

2. Assign the address of variable number1 to pointer variable fPtr.

3. Print the value of the object pointed by fPtr. 1

4. Print the value of number2.

5. Print the value of number1.

6. Print the address stored in fPtr. Is the value printed the same as the address of number1?

1.1 Declarations

Declare the the Following Pointers

1. A nonconstant pointer to nonconstant data

2. A nonconstant pointer to constant data

3. A constant pointer to nonconstant data

4. a constant pointer to constant data

Data can be any datatype.

2 pointers as Arguments

In the C programming language there is no pass-by-reference syntax to pass a variable by reference to a function. Instead a variable is passed by pointer (just to be confusing, sometimes passing by pointer is referred to as pass by reference). This Practice Program asks you to do the same thing as C.

Here is the header for a function that takes as input a pointer to an integer:

```
1  void addOne(int *ptrNum)
```

Complete the function so it adds one to the integer referenced by **ptrNum**.

Write a main function where an integer variable is defined, give it an initial value, call addOne, and output the variable. It should be incremented by 1.