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CSCI 3731

Homework 3

1. What is wrong with the following code and how would you fix it?

int min;

for(int i=0; i<10; ++i) {

int value;

scanf("%d", &value);

if(i==0) min = value;

else if(value<min) min = value;

} // end of loop over input

printf("The smallest or the 10 values you entered was %d\n", min);

1. What is wrong with the following code and how would you fix it?

int\* pointerToMax(int\* a, int\* b) {

if ( \*a > \*b) return a;

else return b;

}

1. What is wrong with the following code and how would you fix it?

int\* ptr = 1; //NULL is an invalid memory

scanf("%d", \*ptr);

printf("You entered %d", ptr);

1. Describe what each of the following declare:
   * 1. int\* a; A pointer a to an integer
     2. const int b; A constant integer b
     3. const int\* c; Pointer c where data can’t be changed through the pointer
     4. int\* const d; Pointer d that can’t be changed to point something else
     5. const int\* const e; A constant pointer to a constant integer
2. What is the difference between the \* and & operators?
   1. & is the address in the memory from the variable. \* dereferences a pointer. The \* operator allows null to be passed-in and the & operator assures that a real object is being referenced by a function’s argument.
3. What is the difference between const int\* a and int\* const b?
   1. The first one is a variable pointer to a constant integer where what you point can be changeable but not the value the pointer points to. The second pointer, int\* const b, is a fixed pointer to a changeable value.