I. True or False

1. When calling a function, if the parenthesis is missing, the function won't get called.

>True

2. The following version of sum_array is illegal: int sum_array (int a[n], int n){ … }

>False

3. C allows functions to be nested.

>False

4. The function prototype double average (); is illegal.

>False

5. Suppose a variable fun is declared as a global variable with a value of 10 and redeclared as a local variable with a value of 5. If fun is printed inside the main function, the output is equal to 10.

>False

6. If a variable point was declared as a pointer and a var was declared as an integer variable, *point = &var is valid.

>False

7. The name of an array always points to the value of the first element of an array.

>False

Suppose that a is one-dimensional int array and p is a pointer to int variable. Assuming that the assignment p = a has just been performed, which of the following expressions are illegal because of mismatched types? State whether the expression from 8 to 11 is true or not.

8. p == a[0] > True

9. p == &a[0] > True

10. *p == a[0] > True

11. p[0] == a[0] > not

II. Provide the answers to the following:

1. Why is it that the first dimension in an array parameter be left unspecified, but not the other dimensions?

> An array with no other dimensions, or unspecified in this column, will result in an incomplete array or will result to an error

2. Write the function prototype given the following:

a. `bool isPalindrome(char *string);`

b. `float computeAverage(float arr[]);`

c. `void reverseSentence(void);`

d. `float squareRoot(int num)`

3. Find the error in each of the following code snippets and explain how the error may be corrected.

a. The quotation marks in the printf function. The function bored(void) should not be in the fun (void)function.

b. The function must be a returning a value type integer and there is no return statement.

c. The function (fun) must be a return void and accept float type which is a. remove the semicolon(;) and the 'float a;' line.

d. The function is a return statement to return to integer total. And there is a missing semicolon(;) in the printf statement.

4. Provide the answers to each of the following. Assumption: integer numbers are stored in 4 bytes, and the first element of the array is at location 2500 in memory.

a. Define an integer array numbers with size = 5. Initialize the elements to values 1, 2, 3, 4, 5. Assume a constant SIZE is defined to 5.

b. Define an integer pointer, ptr.

c. Assign the address of the first element of array numbers to the pointer variable ptr.

d. Print the elements of array numbers using pointer / offset notation with the pointer ptr

e. Print the elements of array numbers using pointer/offset notation using the array name as the pointer

f. Refer to element 2 of numbers using a pointer/offset notation using (f.1) array index notation, (f.2) pointer notation with array name as the pointer, (f.3) pointer index notation with ptr, (f.4) pointer notation with ptr.

g. Assuming that ptr points to the address of the first element, what address is referenced by ptr+2? What value is stored at that address?