**T / F**

1. When a 2D array is passed to a function, the column size must be specified

2. An array name can be dereferenced with the \* operator

3. The function isupper will convert a letter to uppercase

4. Given that s1 and s2 are 2 C strings, (s1 < s2) will return true if the s1 comes before s2 in alphabetical order

5. Structure variables cannot be initialized

**Reading code**

1. Given the following insertion sort:

void insertionSort(int arr[])

{

int current = 1;

int last = MAX - 1;

int temp, walker;

while (current <= last)

{

temp = arr[current];

walker = current - 1;

while (walker >= 0 && temp > arr[walker])

{

arr[walker+1] = arr[walker];

walker = walker - 1;

}

arr[walker+1] = temp;

current = current + 1;

}

}

If the array is: 10 5 17 9 5 8  
What does the array look like after the first pass of the sort?

What does the array look like after the second pass of the sort?

2. Given the following data definitions:  
int array[4] = {2, 4, 6, 8};

int \* p = array;

\*(p+2) = 0;

Show what the array looks like:

3. What is printed from the following code segment:

char s1[10] = "hello";

char s2[] = "!";

strcat(s1, s2);

cout << strlen(s1);

strcpy(s1,s2);

cout << strlen(s1);

4. Given the following code segment:

struct PartData  
{

string name;

int id;

}

PartData inventory[100];

cout << inventory[99].name[0] << endl;

Explain what the code will print

**Writing code**

1. Given the data definition: double sales[8][10];

Write code to fill the last column of the array with 0.5

2. Write code to dynamically allocate an integer and store the value 5 in the memory location

3. Given that s1 and s2 are 2 C++ strings. Write code to check the 2 strings and print "same" or "different" depending on whether the strings are identical

4a.Declare a struct called Temp with 2 fields: a temperature (double) and a location (string)

4b. Dynamically allocate an array of 50 Temp structures

4c. Assume the array is already filled with data, write code to print the location with the highest temperature