Week 6

• What symbol is used to signify that a parameter is a reference parameter?

• Call-by-reference parameters are passed
  a) nothing
  b) the actual argument.
  c) the value in the actual argument.
  d) the address of the argument.

• If you need a function to get both the number of items and the cost per item from a user, which would be a good function declaration to use?
  a) int, float getData();
  b) int getData(float cost);
  c) void getData(int count, float cost);
  d) void getData(int& count, float& cost);
Week 6 Continued

• True or False: If p1 and p2 are both pointers that point to integers in memory, the condition p1==p2 will be true if the values that are in those memory locations are the same.

• Even though pointers point to addresses which are integers, you cannot assign an integer to a pointer variable.

• Declare a pointer variable named ptr to an integer.
Week 6 Continued

• In the statement `cout << *p1;`, the * is called the dereference operator.

• What is the output of the following code fragment?

```cpp
int v1=2, v2=-1, *p1, *p2;
p1 = & v1;
p2= & v2;
p2=p1;
cout << *p2 << endl;
```

- a) 2
- b) -1
- c) -2
- d) 1
Week 6 Continued

• What is wrong with the following code?
  ```c
  int fact(int n) {
    return n * fact(n-1);
  }
  fact(4);
  ```
  a) The function is name wrong
  b) There is not a base case to stop the function from running
  c) The function will never execute
  d) Nothing
Week 7

• In which case would you consider using a dynamic array?
  - If the array is small, and the size is known before the program runs.
  - If the program needs to get the size of the array from the user
  - If the array size is big, but known at compile time
  - You should always use a dynamic array

• Which of the following correctly declares a dynamic array of strings?
  a) `p1 = new string(13);`
  b) `p1 = new string[];`
  c) `p1 = new string[13];`
  d) `p1 = new stringArray(13);`
Week 7 Continued

• Write the code to declare a two dimension array of integers with 10 rows and 20 columns.

```plaintext
int array[10][20];
```

• Given an array named scores with 25 elements, what is the correct way to access the 25th element?
  a) scores+25
  b) scores[24]  
  c) scores[25]
  d) scores[last]
Which of the following function declarations will accept the following two-dimension array?

```c
int pages[10][30];
```

a) `void f1(int pages[][], int size);`

b) `void f1(int pages[][30], int size);`

c) `void f1(int pages[10][] , int size);`

d) `void f1(int& pages, int size);`
Week 7 Continued

• Which of the following will read values from the keyboard into the array? (Assume the size of the array is SIZE).
  
a) cin >> array;
b) cin >> array[];
c) cin >> array[SIZE];
d) for(i=0;i<SIZE;i++)
    cin >> array[i];
Week 8

• Write the code which matches the following picture.

```c
int * ar = new int[5];
for (int i=0; i<5; i++) {  
    ar[i] = i+3; 
}
```
Week 8 Continued

• Write the code which matches the following picture.

```c
int **ar = new int **[2];
for (int i = 0; i < 2; i++) {
    ar[i] = new int*[3];
    for (int j = 0; j < 3; j++) {
        ar[i][j] = new int[2];
    }
}
for (int i = 0; i < 2; i++) {
    for (int j = 0; j < 3; j++) {
        for (int k = 0; k < 2; k++) {
            s = ar[i][j][k];
        }
    }
}
```
Week 8 Continued

• What are command line arguments?

• What is the difference between C-strings and C++ strings?

  - Null terminated character array
  - Counted objects