

# COP 3337 TEST 4

NAME \_\_\_\_\_

Irvine, Spring 2001

1. (30 points) Write a function named `display` that displays all values in a vector of strings. Use an appropriate type of vector iterator. The function has been started for you:

```
void DisplayVector( const vector<string> & names )
{

}

}
```

2. (40 points) Code a binary search function for the vector of strings. The function returns the integer position where it finds a match for `searchVal`. If it does not find a match, the function returns `-1`. The function has been started for you:

```
int SearchVector(const vector<string> & names, int first, int last,
                const string & searchVal )
{

}

}
```

3. (10 points) Assume that a selection sort has  $O(n^2)$ . Suppose we found that sorting a vector of size 1000 requires 5 seconds. Then how many seconds should it take to sort a vector of size 100,000?

Answer: \_\_\_\_\_ seconds.

4. (10 points) Assume that a merge sort has  $O(n * \log(n))$ . Suppose we found that sorting a vector of size 1000 requires 5 seconds. Then how many seconds should it take to sort a vector of size 100,000?

Answer: \_\_\_\_\_ seconds.

5. (10 points) Write statements in C++ that declare an array of 20 pointers to Employees. Use a loop to dynamically allocate twenty Employee objects and assign their addresses to the pointers in the array.

*5 points extra:* Write C++ statements that deallocate all the Employees you created in the previous question.