Gabriela Orozco

CIS 17a

Chapter 9 Problems

1. (9.2) On average, with an array of 20,000 elements, how many comparisons will the linear search perform? (Assume the items being search for are consistently found in the array.)

### Answer: with the linear search each item is counted. average seek

### (sorted)= (size)20,000/2= 10,000

1. (9.6) List three uses of the \* symbol in C++.

Answer: Multiplication operator, pointer definition, indirection operator.

1. (9.7) With an array of 20,000 elements, what is the maximum number of comparisons the binary search will perform?

Answer: 15 comparisons starting with 2,4,8,16,32,64,128,256,512,1024,2048,4,096, 8,192, 16,384, 32,768

Average= (log 2 size(15)\*2) +2 the average will be 32 comparisons