1. True/False

T/F: When using linear probing to retrieve an item, the retrieval function should stop only when either the sought item has been retrieved or when every location has been checked.

Answer: False, the retrieval function may end its search when it encounters an empty location in the table, otherwise, the efficiency of the linear probing approach will be reduced. (Page 550)

1. Multiple Choice

Which of the following is not a technique for collision resolution in a hash table discussed in the text or in class?

1. Hashing then chaining.
2. Linear Probing.
3. Chaining then hashing.
4. Quadratic Probing.
5. Double Hashing.

Answer: C. Chaining then hashing is made-up and would probably perform poorly if it was real. (Pages 549 - 557)

1. Fill in the Blank

A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ function will map each key x to a unique table location I without collisions.

Answer: perfect hash(ing). (Page 546)

1. Short Answer or Code

Implement a hashing function that accepts a c-style string as a key and returns an integer to be used as a table location. Assume that the size of the hash table is a class or global variable/constant.

Answer: (one example)

int hash\_a\_string( const char\* key )

{

int ndx = 0;

int total = 0;

while( key[ ndx ] != NULL )

{

total += int( key[ ndx ] – 65 );

}

return ( total % tableSize );

}

(Pages 547 - 549)