Homework 1 Comments

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- Hash Function
- enterName
- destroySymTab
- createSymTab

Hash Function From the CS 340 Book *Data Structures and Algorithms in Java* by Mark Allen Weiss

```
1           public static int hash( String key, int tableSize )
2           {
3               int hashVal = 0;
4
5               for( int i = 0; i < key.length( ); i++ )
6                   hashVal += key.charAt( i );
7
8               return hashVal % tableSize;
9           }
```

Figure 5.2 A simple hash function

A Better Hash Function From the CS 340 Book

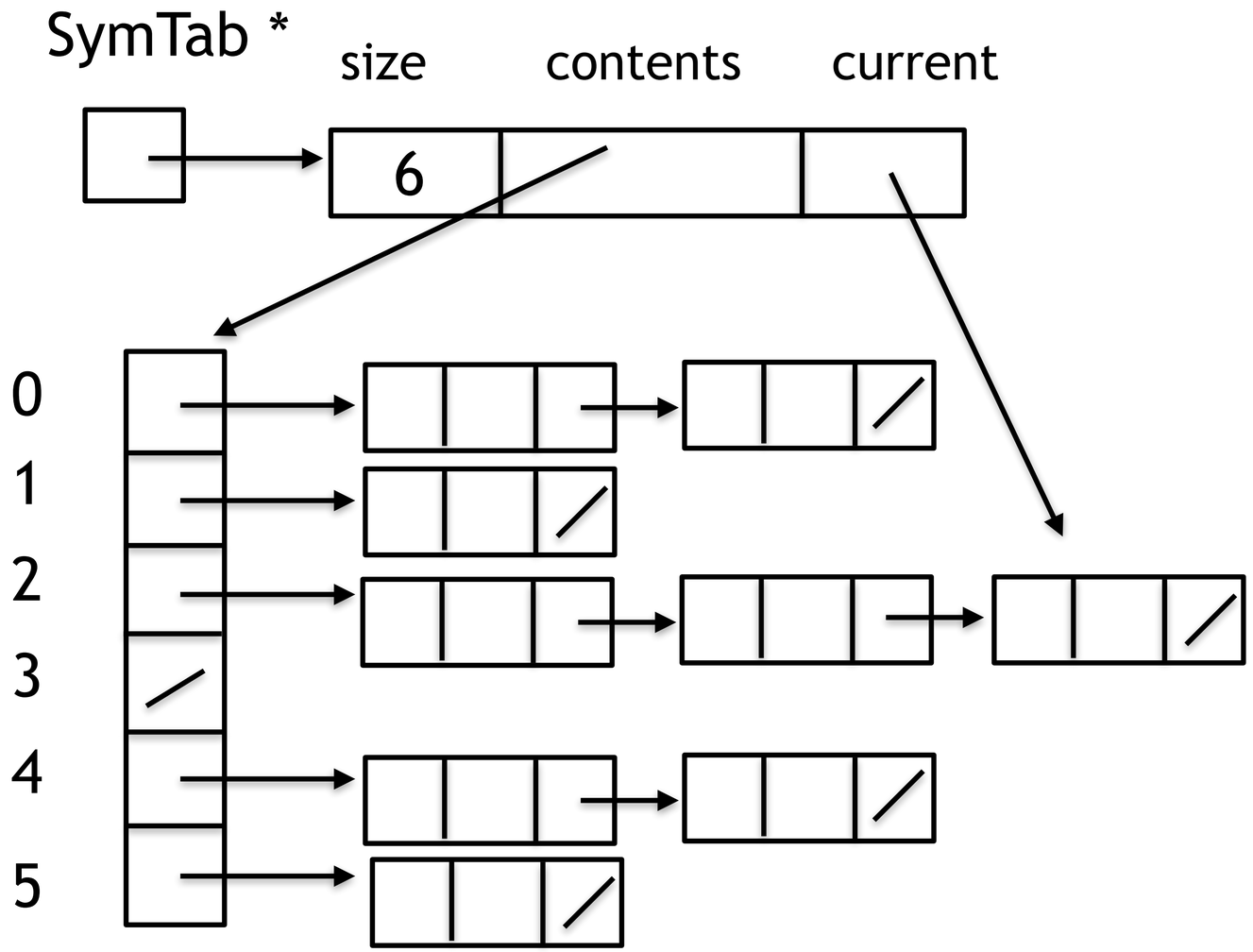
```
1       /**
2        * A hash routine for String objects.
3        * @param key the String to hash.
4        * @param tableSize the size of the hash table.
5        * @return the hash value.
6        */
7       public static int hash( String key, int tableSize )
8       {
9           int hashVal = 0;
10
11          for( int i = 0; i < key.length( ); i++ )
12              hashVal = 37 * hashVal + key.charAt( i );
13
14          hashVal %= tableSize;
15          if( hashVal < 0 )
16              hashVal += tableSize;
17
18          return hashVal;
19      }
```

Figure 5.4 A good hash function

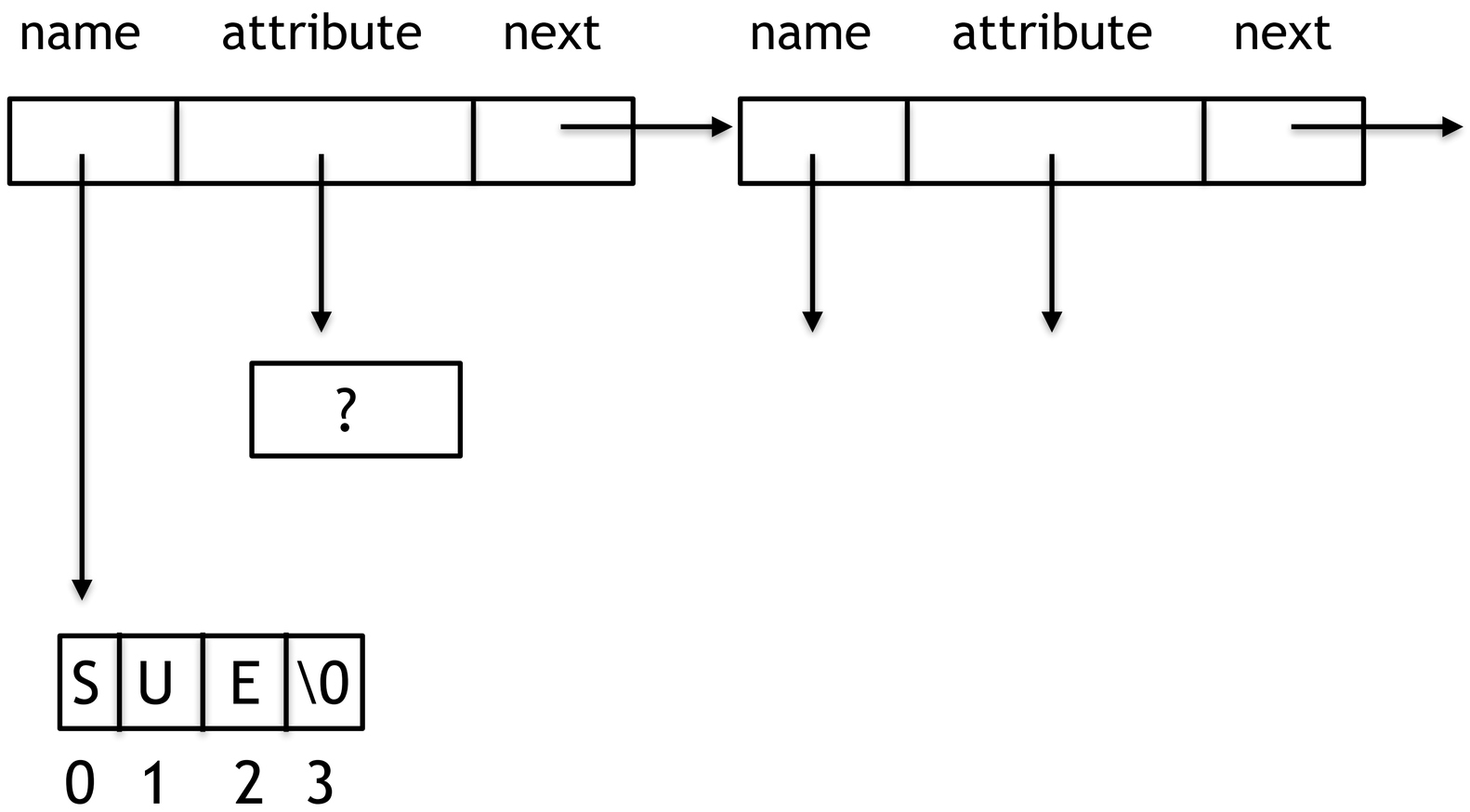
enterName

- Make sure you make a copy of the name
- The strdup function can help with this

destroySymTab



destroySymTab



createSymTab