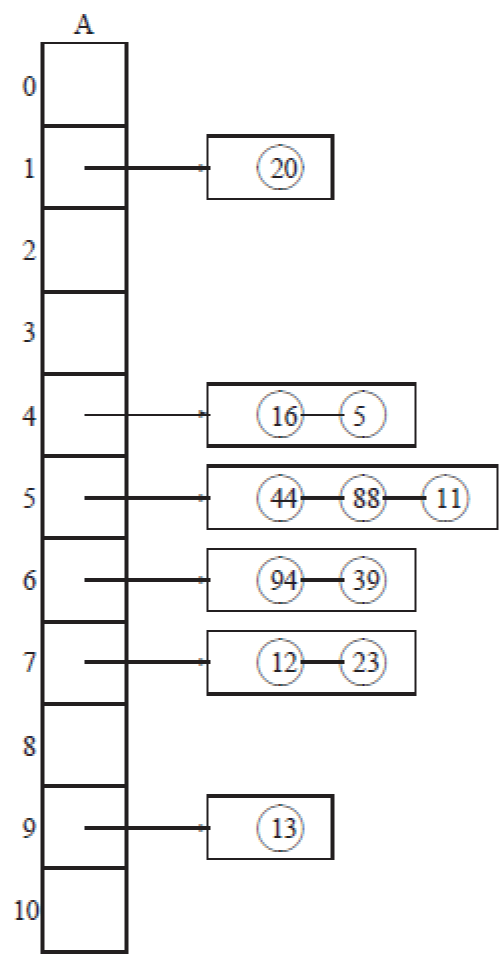
Hash Table

Draw the ll-entry hash table that results from using the hash function, ***h(i)* = *(2i* +5)** mod 11, to hash the keys 12,44, 13,88,23,94, 11,39,20, 16, and 5, assuming collisions are handled by chaining.

Solution



R-9.7

What is the result of the previous exercise, assuming collisions are handled by linear probing?

Solution

11	**39**	**20**	**5**	**16**	**44**	**88**	**12**	**23**	**13**	**94**

Show the result of Exercise R-9.6, assuming collisions are handled by quadratic probing, up to the point where the method fails.

Solution

	20	**16**	**11**	**39**	**44**	**88**	**12**	**23**	**13**	**94**

What is the result of Exercise R-9.6 when collisions are handled by double hashing using the secondary hash function $h'(k) = 7 - (k \bmod 7)$?

Solution

11	**23**	**20**	**16**	**39**	**44**	**94**	**12**	**88**	**13**	**5**

What is the worst-case time for putting *n* entries in an initially empty hash table, with collisions resolved by chaining? What is the best case?

Solution:

If the sequences are not sorted, then the worst case time is $O(n)$. If the sequences are stored in sorted order, then the worst case time is $O(n^2)$.