

CS240, Spring 2022

Assignment 4: Question 3

Q3a-d)

3a)

0		→ 13	→ 10
1			
2		→ 20	→ 10
3		→ 17	
4		→ 17	

3b)

0	13
1	2
2	10
3	20
4	17

3c)

0	13
1	
2	10
3	20
4	17

$h_1(20) = 20 = h_1$
 $h_2(20) = 1$

3d)

0	13
1	
2	10
3	
4	17

0	20
1	
2	
3	
4	20

Q3e) Identify a serious problem with the choice of hash functions in part (d).

If we are asked to insert the last element in our universe (25), the second hash function will fail because $\frac{25}{5} = 5$ and our hash table only goes up to 4.