## CS3402 Tutorial 6 Solutions:

l.

$$512/8 = 64$$
 blocks  
Sequential search =  $64/2 = 32$   
Binary search =  $\log_2 64 = \log_2 2^6 = 6$ 

2.

(a) Static hashing with 5 buckets, each of which contains at most 3 records Bucket  $\boldsymbol{0}$ 

3760	
7115	
	NULL

Bucket 1

4871		
1821		
	•	NULL

Bucket 2

-	KOU Z	
	4692	
		NULL

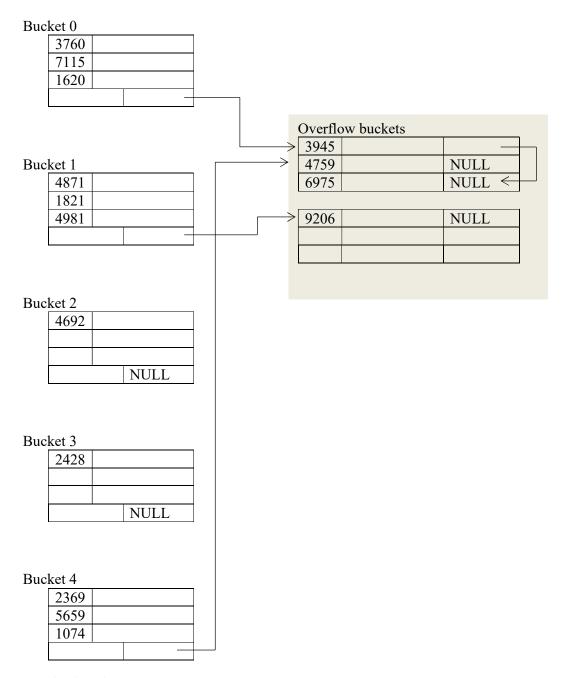
Bucket 3

	NULL

Bucket 4

2369	
5659	
1074	
	NULL

## (b) Overflow handling



3. 8 hash codes (000, 001, 010, 100, 011, 110, 101, 111)

4.

- a) R = 40+8+4+65+8+8+1+7+6+2+1 = 150 bytes.
- b) The blocking factor: brf=floor(1024/150)=6 records
- c) The file will occupy ceil (1000 / brf)= ceil (1000/6)=167 blocks