$n = 5$ [Initial no. of buckets]

$b = 2$ [Bucket capacity]

$bfs = 0.75$ [bucket fill factor]

$h_j(k) = k \bmod 2^j n$

Elements to insert into an empty hash table:-

200, 325, 405, 389, 188, 101, 500, 57, 82, 120, 133, 48, 436, 461, 369, 223, 228, 199, 123, 42, 23

Step	Inserted Key	Hash Function Used	Bucket Affected	Bucket Contents After Insert	Splitting Pointer (s)	Number of Buckets (N)	Average Load	Split Performed
1	200	h0(k)=kmod 5h0(k)=kmod5	0	0: [200]	0	5	0.2	No
2	325	h0(k)=kmod 5h0(k)=kmod5	0	0: [200, 325]	0	5	0.4	No
3	405	h0(k)=kmod 5h0(k)=kmod5	0	0: [200, 325, 405] (Overflow)	0	5	0.6	No
4	389	h0(k)=kmod 5h0(k)=kmod5	4	4: [389]	0	5	0.8	Yes (Split Bucket 0)
		h1(k)=kmod 10h1(k)=kmod10	0, 5	0: [200], 5: [325, 405]	1	6	0.6667	
5	188	h0(k)=kmod 5h0(k)=kmod5	3	3: [188]	1	6	0.8333	Yes (Split Bucket 1)
		h1(k)=kmod 10h1(k)=kmod10	1	1: Empty Bucket	2	7	0.7143	
6	101	h1(k)=kmod 10h1(k)=kmod10	1	1: [101]	2	7	0.8571	Yes (Split Bucket 2)
		h1(k)=kmod 10h1(k)=kmod10	2	2: Empty Bucket	3	8	0.75	
7	500	h1(k)=kmod 10h1(k)=kmod10	0	0: [200, 500]	3	8	0.875	Yes (Split Bucket 3)
		h1(k)=kmod 10h1(k)=kmod10	3, 8	3: Empty Bucket, 8: [188]	4	9	0.7778	
8	57	h1(k)=kmod 10h1(k)=kmod10	7	7: [57]	4	9	0.8889	Yes (Split Bucket 4)
		h1(k)=kmod 10h1(k)=kmod10	4, 9	4: Empty Bucket, 9: [389]	5	10	0.8	
9	82	h1(k)=kmod 10h1(k)=kmod10	2	2: [82]	5	10	0.9	Yes (Increment Level to j=1)
		h2(k)=kmod 20h2(k)=kmod20	-	*Level increased to 1, splitting pointer reset*	0	10	0.9	

10	120	h1(k)=kmod 10h1(k)=kmod10	0	0: [200, 500, 120] **(Overflow)**	0	10	0.9	Yes (Split Bucket 0)
		h2(k)=kmod 20h2(k)=kmod20	0, 10	0: [200, 120], 10: [500]	1	11	0.8182	
11	133	h1(k)=kmod 10h1(k)=kmod10	3	3: [133]	1	11	0.9091	Yes (Split Bucket 1)
		h2(k)=kmod 20h2(k)=kmod20	1, 11	1:[101], 11: Empty Bucket	2	12	0.8333	
12	48	h1(k)=kmod 10h1(k)=kmod10	8	8: [188, 48]	2	12	0.9167	Yes (Split Bucket 2)
		h2(k)=kmod 20h2(k)=kmod20	2, 12	2:[82], 12: Empty Bucket	3	13	0.8462	
13	436	h1(k)=kmod 10h1(k)=kmod10	6	6: [436]	3	13	0.9231	Yes (Split Bucket 3)
		h2(k)=kmod 20h2(k)=kmod20	3, 13	3: Empty Bucket, 13:[133]	4	14	0.8571	
14	461	h1(k)=kmod 10h1(k)=kmod10	1	1: [101, 461]	4	14	0.9286	Yes (Split Bucket 4)
		h2(k)=kmod 20h2(k)=kmod20	4	4: Empty Bucket	5	15	0.8667	
15	364	h2(k)=kmod 20h2(k)=kmod20	4	4: [364]	5	15	1	Yes (Split Bucket 5)
		h2(k)=kmod 20h2(k)=kmod20	5, 15	5:[325, 405], 15: Empty Bucket	6	16	0.9375	
16	223	h2(k)=kmod 20h2(k)=kmod20	3	3: [223]	6	16	1	Yes (Split Bucket 6)
		h2(k)=kmod 20h2(k)=kmod20	6, 16	6:[436], 16: Empty Bucket	7	17	0.9412	
17	228	h2(k)=kmod 20h2(k)=kmod20	8	8: [188, 48, 228] ***(Overflow)***	7	17	1	Yes (Split Bucket 7)
		h2(k)=kmod 20h2(k)=kmod20	7, 17	7:[57], 17: Empty Bucket	8	18	0.9444	
18	199	h2(k)=kmod 20h2(k)=kmod20	19	19: [199]	8	18	1	Yes (Split Bucket 8)
		h2(k)=kmod 20h2(k)=kmod20	8, 18	8:[188, 48, 228], 18: Empty Bucket	9	19	0.9474	
19	123	h2(k)=kmod 20h2(k)=kmod20	3	3: [223, 123] ***(Overflow)***	9	19	1	Yes (Split Bucket 9)
		h2(k)=kmod 20h2(k)=kmod20	9, 19	9: [389], 19: [199]	10	20	0.95	
20	42	h2(k)=kmod 20h2(k)=kmod20	2	2: [82, 42]	10	20	1	Yes (Increment Level to j=2)
		h3(k)=kmod 40h3(k)=kmod40	-	***Level increased to 2, splitting pointer reset***	0	20	1	
21	23	h2(k)=kmod 20h2(k)=kmod20	3	3: [223, 123, 23] ***(Overflow)***	0	20	1.05	Yes (Split Bucket 0)
		h3(k)=kmod 40h3(k)=kmod40	0, 20	0: [200, 120], 20: [500]	1	21	1	

Final Hash table states :-

Bucket 0 : [200, 120]

Bucket 1 : [101, 461]

Bucket 2 : [82, 42]

Bucket 3 : [223, 123, 23] (Overflow)

Bucket 4 : [364]

Bucket 5 : [325, 405]

Bucket 6: []

Bucket 7: []

Bucket 8 :- [188, 48, 228] (Overflow)

Bucket 9 : [389]

Bucket 10: []

Bucket 11 : []

Bucket 12 : []

Bucket 13: [133]

Bucket 14: []

Bucket 15: []

Bucket 16: [436]

Bucket 17: [57]

Bucket 18: []

Bucket 19: [99]

Bucket 20: [500]