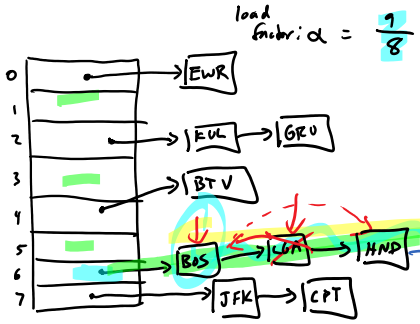
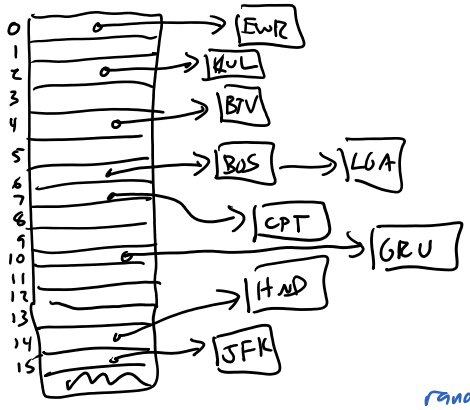
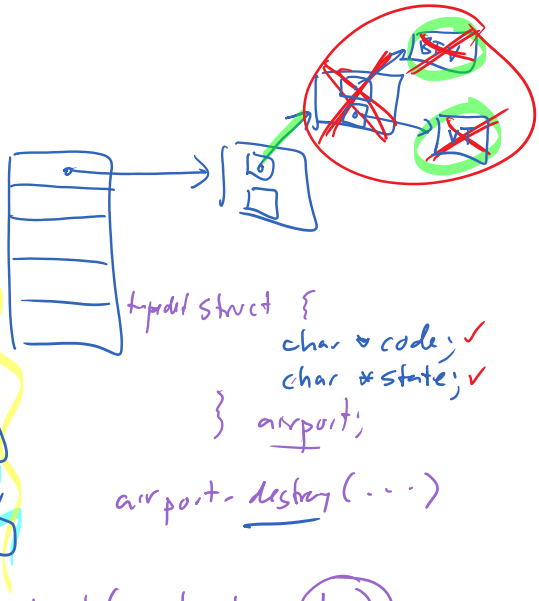
JFK 73359 7
BOS 65958 6
EWR 69088 0
LGA 75302 6
BTV 66116 4
HND 71678 6
KUL 74786 2
CPT 66951 7
GRU 70858 2



JFK 73359 15
BOS 65958 6
EWR 69088 0
LGA 75302 6
BTV 66116 4
HND 71678 14
KUL 74786 2
CPT 66951 7
GRU 70858 10






```
hash(const char *key)
{
    const char *temp
        = malloc(strlen(key)+6);
    strcpy(temp, random);
    strcat(temp, key);
    return normal_hash(temp);
}
```

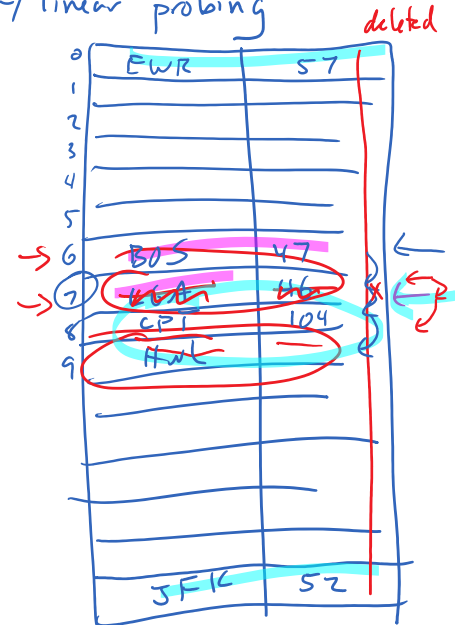
random 5 characters

salt

JFK
xg14g JFK
AVL
xg149 AVL

open addressing w/ linear probing

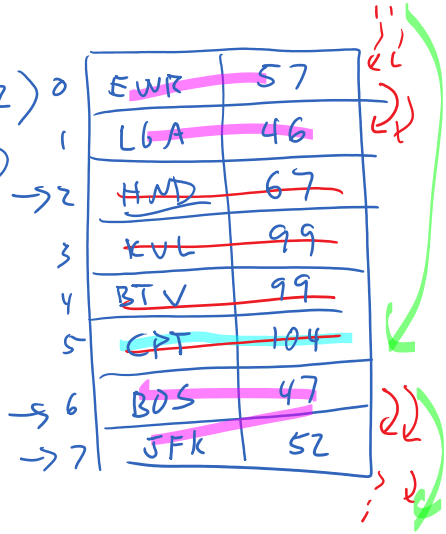
deleted




```
smap_remove(m, "LGA");
smap_contains_key(m, "CPT");
```

JFK 73359 7
BOS 65958 6
EWR 69088 0
LGA 75302 6
BTV 66116 4
HND 71678 6
KUL 74786 2
CPT 66951 7
GRU 70858 2

put (JFK, 52)
put (BOS, 47)



1000 slots
900 key/value entries

expected probes to know key not present $\frac{1}{1-\alpha}$

bound α by $\frac{1}{2}$