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CPT_S 223
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1.
Chaining

	3		0	12 98 1			9 42	70		

0   1   2   3   4   5   6   7   8   9   10

Linear Probing

	3		0	12	98	1	9	70	42	

0   1   2   3   4   5   6   7   8   9   10

Quadratic Probing

	3		0	12		1	9	98	70	42

0   1   2   3   4   5   6   7   8   9   10

Rehash problem:
Load factor = 53491 / 100001 = 0.53490465
considering the container is only half full, it is probably not necessary to re hash.

2.

Function	Big-O complexity
insert(x)	O(1)
Rehash()	O(n)
Remove(x)	O(1)
COntains(x)	O(1)

3.

int hashit(int key, int tablesize)

{

        return key % tablesize;

}

```
int hashit(std::string key, int tablesize)
{

        int hash = 0;

        for(int i = 0; i < key.length(); i++)

                hash += int(key[i]) * pow(31, i);

        return hash;

 }
```

What is parallel programming?:

parallel programming is the process of exicuting multiple sections of code simultaneously.

What are the two strategies for for partitioning in parallel programming?:

One strategy is single instruction multiple data or SIMD parallelization, which is involves running a program on a machine with multiple processors. Another strategy is MIMD in which multiple machines run programs from different data streams.