Offline-5 Report

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Total words = 10,000
Total searches = 1,000

	Hash1		Hash2	
	Number of Collisions	Average Probes	Number of Collisions	Average Probes
Chaining Method (N=10000)	3725	1.52	3641	1.47
Double Hashing (N=38183)	1624	1.179	1619	1.159
Custom Probing (N=38183)	1602	1.167	1636	1.177

Hash1 :

```java
int hashFunction(String str) {
    int hash = 5381;

    for(int i = 0; i < str.length(); i++)
        hash = (((hash << 5) + hash) + (str.charAt(i)-'a'+1)) % tableLength;

    return hash;
}
```

Hash2:

```java
int hashFunction(String str) {
    // polynomialRollingHash
    int p = 31;
    int power_of_p = 1;
    int hash_val = 0;

    // Loop to calculate the hash value
    // by iterating over the elements of String
    for(int i = 0; i < str.length(); i++)
    {
        hash_val = (hash_val + (str.charAt(i) - 'a' + 1) * power_of_p) % tableLength;
        power_of_p = (power_of_p * p) % tableLength;
    }
    return hash_val % tableLength;
}
```

AuxHash:

```java
int auxHashFunction(String str) {
    int hash = 0;

    for(int i = 0; i < str.length(); i++)
        hash += str.charAt(i)-'a' % tableLength;

    return hash;
}
```