Questions:

1. What are the big-O run-times of the four Map operations for HashMap?

Do your empirical results agree with this? Why or why not?

Empirical: O(1)

Empirical: O(1)

Empirical: O(0)

Empirical: O(log n)

Theoretical Big-O run times:

Put: O(1) worse case O(n) Size: O(1) Find: O(n) Erase: O(n)

2. What are the big-O run-times of the four Map operations for TreeMap?

Do your empirical results agree with this? Why or why not?

Big-o: O(n)

O(n)

O(1)

O(1)

Theoretical Big-O:

Put: worse case O(n)  
Size: O(1)   
Find: best: O(log n) worst:O(n)   
Erase: O(n)

3. What are the big-O run-times of the four Map operations for SearchTable?

Do your empirical results agree with this? Why or why not?

O(n)

O(1)

O(1)

O(n)

Theoretical :

Put O(n)

Find O(n)

Size O(1)

Erase O(n)

4. Draw a class diagram of the classes in this project. Label the inheritance relationships as either being has-a or is-a.

Class Map

KeyValue

Is-a

Is-a

Has-A

Has-A

Has-A

Has-A

Node

Is-a

Search Map

Tree Map

Hash Map