Hash Codes for the 10 Bucket Table are below:

| Names | HashCodes |
|---|---|
| Dijkstra | 8 |
| Kosaraju | 2 |
| Turing | 3 |
| Lovelace | 1 |
| Knuth | 2 |
| Backus | 1 |
| Neumann | 2 |
| Shannon | 5 |
| Church | 5 |
| Chomsky | 4 |

Using Separate Chaining:

Adding Dijkstra:

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | | 0 |
| 4. | | 0 |
| 5. | | 0 |
| 6. | | 0 |
| 7. | | 0 |
| 8. | Dijkstra | 0 |
| 9. | | 0 |

No collisions for Dijkstra. Adding Kosaraju.

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | Kosaraju | 0 |
| 3. | | 0 |
| 4. | | 0 |
| 5. | | 0 |
| 6. | | 0 |
| 7. | | 0 |
| 8. | Dijkstra | 0 |
| 9. | | 0 |

No collisions. Adding the next one.

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | Kosaraju | 0 |
| 3. | Turing | 0 |
| 4. | | 0 |
| 5. | | 0 |
| 6. | | 0 |
| 7. | | 0 |
| 8. | Dijkstra | 0 |
| 9. | | 0 |

No collisions. Adding next

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | Lovelace | 0 |
| 2. | Kosaraju | 0 |
| 3. | Turing | 0 |
| 4. | | 0 |
| 5. | | 0 |
| 6. | | 0 |
| 7. | | 0 |
| 8. | Dijkstra | 0 |
| 9. | | 0 |

No collision for Lovelace. Adding next.

| Table Index | Word | Word after 1 Collision | Collisions |
|---|---|---|---|
| 0. | | | 0 |
| 1. | Lovelace | | 0 |
| 2. | Kosaraju | Knuth | 1 |
| 3. | Turing | | 0 |
| 4. | | | 0 |
| 5. | | | 0 |
| 6. | | | 0 |
| 7. | | | 0 |
| 8. | Dijkstra | | 0 |
| 9. | | | 0 |

Knuth has 1 collision at index 2.

| Table Index | Word | Word after 1 Collision | Collisions |
|---|---|---|---|
| 0. | | | 0 |
| 1. | Lovelace | Backus | 1 |
| 2. | Kosaraju | Knuth | 1 |
| 3. | Turing | | 0 |
| 4. | | | 0 |
| 5. | | | 0 |
| 6. | | | 0 |
| 7. | | | 0 |
| 8. | Dijkstra | | 0 |
| 9. | | | 0 |

Collision at index 1. Adding next.

| Table Index | Word | Word after 1 Collision | Word after 2 collisions | Collisions |
|---|---|---|---|---|
| 0. | | | | 0 |
| 1. | Lovelace | Backus | | 1 |
| 2. | Kosaraju | Knuth | Neumann | 3 (As last one collided with Kosaraju and knuth) |
| 3. | Turing | | | 0 |
| 4. | | | | 0 |
| 5. | | | | 0 |
| 6. | | | | 0 |
| 7. | | | | 0 |
| 8. | Dijkstra | | | 0 |

| | | | | |
|---|---|---|---|---|
| 9. | | | | 0 |

2 Collisions at index 2. Adding next.

| Table Index | Word | Word after 1 Collision | Word after 2 collisions | Collisions |
|---|---|---|---|---|
| 0. | | | | 0 |
| 1. | Lovelace | Backus | | 1 |
| 2. | Kosaraju | Knuth | Neumann | 2 |
| 3. | Turing | | | 0 |
| 4. | | | | 0 |
| 5. | Shannon | | | 0 |
| 6. | | | | 0 |
| 7. | | | | 0 |
| 8. | Dijkstra | | | 0 |
| 9. | | | | 0 |

No collision. Adding next.

| Table Index | Word | Word after 1 Collision | Word after 2 collisions | Collisions |
|---|---|---|---|---|
| 0. | | | | 0 |
| 1. | Lovelace | Backus | | 1 |
| 2. | Kosaraju | Knuth | Neumann | 2 |
| 3. | Turing | | | 0 |
| 4. | | | | 0 |
| 5. | Shannon | Church | | 1 |
| 6. | | | | 0 |
| 7. | | | | 0 |

| | | | | |
|---|---|---|---|---|
| 8. | Dijkstra | | | 0 |
| 9. | | | | 0 |

Collision at index 5. Adding next.

| Table Index | Word | Word after 1 Collision | Word after 2 collisions | Collisions |
|---|---|---|---|---|
| 0. | | | | 0 |
| 1. | Lovelace | Backus | | 1 |
| 2. | Kosaraju | Knuth | Neumann | 2 |
| 3. | Turing | | | 0 |
| 4. | Chomsky | | | 0 |
| 5. | Shannon | Church | | 1 |
| 6. | | | | 0 |
| 7. | | | | 0 |
| 8. | Dijkstra | | | 0 |
| 9. | | | | 0 |

No collision. Total collisions are 5.

Hash Codes for the 17 Bucket Table are below:

| Names | HashCodes |
|---|---|
| Dijkstra | 12 |
| Kosaraju | 16 |
| Turing | 4 |
| Lovelace | 12 |
| Knuth | 12 |
| Backus | 6 |
| Neumann | 8 |

| | |
|---|---|
| Shannon | 11 |
| Church | 10 |
| Chomsky | 3 |

Adding Dijkstra using linear probing:

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | | 0 |
| 4. | | 0 |
| 5. | | 0 |
| 6. | | 0 |
| 7. | | 0 |
| 8. | | 0 |
| 9. | | 0 |
| 10. | | 0 |
| 11. | | 0 |
| 12. | Dijkstra | 0 |
| 13. | | 0 |
| 14. | | 0 |
| 15. | | 0 |
| 16. | | 0 |

No collision. Adding next.

| Table Index | Word | Collisions |
|---|---|---|

| | | |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | | 0 |
| 4. | | 0 |
| 5. | | 0 |
| 6. | | 0 |
| 7. | | 0 |
| 8. | | 0 |
| 9. | | 0 |
| 10. | | 0 |
| 11. | | 0 |
| 12. | Dijkstra | 0 |
| 13. | | 0 |
| 14. | | 0 |
| 15. | | 0 |
| 16. | Kosaraju | 0 |

No collisions.

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | | 0 |
| 4. | Turing | 0 |
| 5. | | 0 |

| | | |
|---|---|---|
| 6. | | 0 |
| 7. | | 0 |
| 8. | | 0 |
| 9. | | 0 |
| 10. | | 0 |
| 11. | | 0 |
| 12. | Dijkstra | 0 |
| 13. | | 0 |
| 14. | | 0 |
| 15. | | 0 |
| 16. | Kosaraju | 0 |

No collision

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | | 0 |
| 4. | Turing | 0 |
| 5. | | 0 |
| 6. | | 0 |
| 7. | | 0 |
| 8. | | 0 |
| 9. | | 0 |
| 10. | | 0 |
| 11. | | 0 |

| | | |
|---|---|---|
| 12. | Dijkstra | 1 |
| 13. | Lovelace | 0 |
| 14. | | 0 |
| 15. | | 0 |
| 16. | Kosaraju | 0 |

1 Collision at 12, so I put it at 13.

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | | 0 |
| 4. | Turing | 0 |
| 5. | | 0 |
| 6. | | 0 |
| 7. | | 0 |
| 8. | | 0 |
| 9. | | 0 |
| 10. | | 0 |
| 11. | | 0 |
| 12. | Dijkstra | 2 |
| 13. | Lovelace | 1 |
| 14. | Knuth | 0 |
| 15. | | 0 |
| 16. | Kosaraju | 0 |

2 collisions on 12 and 13, so i put it in 14.

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | | 0 |
| 4. | Turing | 0 |
| 5. | | 0 |
| 6. | Backus | 0 |
| 7. | | 0 |
| 8. | | 0 |
| 9. | | 0 |
| 10. | | 0 |
| 11. | | 0 |
| 12. | Dijkstra | 2 |
| 13. | Lovelace | 1 |
| 14. | Knuth | 0 |
| 15. | | 0 |
| 16. | Kosaraju | 0 |

No collision.

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | | 0 |
| 4. | Turing | 0 |

| | | |
|---|---|---|
| 5. | | 0 |
| 6. | Backus | 0 |
| 7. | | 0 |
| 8. | Neumann | 0 |
| 9. | | 0 |
| 10. | | 0 |
| 11. | | 0 |
| 12. | Dijkstra | 2 |
| 13. | Lovelace | 1 |
| 14. | Knuth | 0 |
| 15. | | 0 |
| 16. | Kosaraju | 0 |

No collision.

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | | 0 |
| 4. | Turing | 0 |
| 5. | | 0 |
| 6. | Backus | 0 |
| 7. | | 0 |
| 8. | Neumann | 0 |
| 9. | | 0 |
| 10. | | 0 |

| | | |
|---|---|---|
| 11. | Shannon | 0 |
| 12. | Dijkstra | 2 |
| 13. | Lovelace | 1 |
| 14. | Knuth | 0 |
| 15. | | 0 |
| 16. | Kosaraju | 0 |

No collision.

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | | 0 |
| 4. | Turing | 0 |
| 5. | | 0 |
| 6. | Backus | 0 |
| 7. | | 0 |
| 8. | Neumann | 0 |
| 9. | | 0 |
| 10. | Church | 0 |
| 11. | Shannon | 0 |
| 12. | Dijkstra | 2 |
| 13. | Lovelace | 1 |
| 14. | Knuth | 0 |
| 15. | | 0 |
| 16. | Kosaraju | 0 |

No collision.

| Table Index | Word | Collisions |
|---|---|---|
| 0. | | 0 |
| 1. | | 0 |
| 2. | | 0 |
| 3. | Chomsky | 0 |
| 4. | Turing | 0 |
| 5. | | 0 |
| 6. | Backus | 0 |
| 7. | | 0 |
| 8. | Neumann | 0 |
| 9. | | 0 |
| 10. | Church | 0 |
| 11. | Shannon | 0 |
| 12. | Dijkstra | 2 |
| 13. | Lovelace | 1 |
| 14. | Knuth | 0 |
| 15. | | 0 |
| 16. | Kosaraju | 0 |

No collision. Total collisions are 3.