|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Bubble Sort | | | | | |
| PASS | 17 | 23 | 5 | 11 | 2 |
| 1 | 23 | 17 | 11 | 5 | 2 |

Nathan Tipton

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Heap Sort | | | | | |
| PASS | 17 | 23 | 5 | 11 | 2 |
| Build Heap | 2 | 11 | 5 | 17 | 23 |
| Delete Min 1 Swap   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  | 2 | | 23 | 11 | 5 | 17 |  |
| Delete Min 1 DownHeap | 5 | 11 | 23 | 17 |  |
| Delete Min 2 Swap   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  | 5 | 2 | | 17 | 11 | 23 |  |  |
| Delete Min 2 DownHeap | 11 | 17 | 23 |  |  |
| Delete Min 3 Swap   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  | 11 | 5 | 2 | | 23 | 17 |  |  |  |
| Delete Min 3 DownHeap | 17 | 23 |  |  |  |
| Delete Min 4 Swap   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | 17 | 11 | 5 | 2 | | 23 |  |  |  |  |
| Final array | 23 | 17 | 11 | 5 | 2 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Selection Sort | | | | | |
| PASS | 17 | 23 | 5 | 11 | 2 |
| 1 | 23 | 17 | 5 | 11 | 2 |
| 2 | 23 | 17 | 5 | 11 | 2 |
| 3 | 23 | 17 | 11 | 5 | 2 |
| 4 | 23 | 17 | 11 | 5 | 2 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Insertion Sort | | | | | |
| PASS | 17 | 23 | 5 | 11 | 2 |
| 1 | 23 | 17 | 5 | 11 | 2 |
| 2 | 23 | 17 | 5 | 11 | 2 |
| 3 | 23 | 17 | 11 | 5 | 2 |
| 4 | 23 | 17 | 11 | 5 | 2 |

Merge Sort

17 , 23 | 5 , 11, 2 → 23,17,11,5,2

17 | 23 → 23, 17

17

23

5 , 11 | 2 → 11, 5,2

5 | 11 → 11, 5

2

5

11

Quick Sort

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 17 | 23 | 5 | 11 | 2 |

|  |  |  |  |
| --- | --- | --- | --- |
| 17 | 23 | 5 | 11 |

|  |
| --- |
| **2** |

|  |  |
| --- | --- |
| 17 | 23 |

|  |
| --- |
| **11** |

|  |
| --- |
| 5 |

|  |
| --- |
| **23** |

|  |
| --- |
| 17 |