CMSC 204

Heap Sort Lab

Max heap

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Index |  |  |  |  |  |  |  |  |  |  |
| 0 | 5 | 5 | 5 | 5 | 5 | **92** | 92 | 92 |  |  |
| 1 | 22 | 22 | 22 | **92** | 92 | **5** | **76** | 76 |  |  |
| 2 | 9 | 9 | **81** | 81 | 81 | 81 | 81 | 81 |  |  |
| 3 | 76 | **92** | 92 | **22** | **76** | 76 | **5** | **54** |  |  |
| 4 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |  |  |
| 5 | 81 | 81 | **9** | 9 | 9 | 9 | 9 | 9 |  |  |
| 6 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 |  |  |
| 7 | 92 | **76** | 76 | 76 | **22** | 22 | 22 | 22 |  |  |
| 8 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | **5** |  |  |
| 9 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |  |  |

Heap Sort

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Index |  |  |  |  |  |  |  |  |  |  |
| 0 | 92 | 28 | 81 | 81 | 5 | 76 | 76 | 22 | 63 | 63 |
| 1 | 76 | 76 | 76 | 76 | 76 | 5 | 63 | 63 | 22 | 54 |
| 2 | 81 | 81 | 28 | 48 | 48 | 48 | 48 | 48 | 48 | 48 |
| 3 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 22 |
| 4 | 63 | 63 | 63 | 63 | 63 | 63 | 5 | 5 | 5 | 5 |
| 5 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 6 | 48 | 48 | 48 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| 7 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 76 |  |  |
| 8 | 5 | 5 | 5 | 5 | 81 |  |  |  |  |  |
| 9 | 28 | 92 |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Index |  |  |  |  |  |  |  |  |  |  |
| 0 | 63 | 28 | 54 | 9 | 48 | 5 | 28 | 22 | 9 | 9 |
| 1 | 54 | 54 | 28 | 28 | 28 | 28 | 5 | 5 | 5 | 5 |
| 2 | 48 | 48 | 48 | 48 | 9 | 9 | 9 | 9 | 22 |  |
| 3 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 28 |  |  |
| 4 | 5 | 5 | 5 | 5 | 5 | 48 |  |  |  |  |
| 5 | 9 | 9 | 9 | 54 |  |  |  |  |  |  |
| 6 | 28 | 63 |  |  |  |  |  |  |  |  |

Sorted Array:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Index | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  | 5 | 9 | 22 | 28 | 48 | 54 | 63 | 76 | 81 | 92 |