

# Heap Sort Lab

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Original Document: <https://docs.google.com/spreadsheets/d/1BaLaYrkmFsRWhalskn-LMMYjL0Gvluqv54JgFdXR6HI/edit?usp=sharing>

[0]	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	Indices
5	22	9	76	63	81	48	92	54	28	Provided level-order binary tree traversal
5	22	9	<b>92</b>	63	81	48	<b>76</b>	54	28	Start building heap, swap 76 & 92
5	<b>92</b>	9	<b>22</b>	63	81	48	76	54	28	Swap 22 & 92
5	92	9	<b>76</b>	63	81	48	<b>22</b>	54	28	Swap 22 & 76
5	92	<b>81</b>	76	63	<b>9</b>	48	22	54	28	Swap 9 & 81
<b>92</b>	<b>5</b>	81	76	63	9	48	22	54	28	Swap 5 & 92
92	<b>76</b>	81	<b>5</b>	63	9	48	22	54	28	Swap 5 & 76
92	76	81	<b>54</b>	63	9	48	22	<b>5</b>	28	Swap 5 & 54, finish building the heap
<b>28</b>	76	81	54	63	9	48	22	5	<b>92</b>	Start sorting heap, swap root 92 & 28
<b>81</b>	76	<b>28</b>	54	63	9	48	22	5	<b>92</b>	Reheap, swap 28 & 81
81	76	<b>48</b>	54	63	9	<b>28</b>	22	5	<b>92</b>	Reheap, swap 28 & 48
<b>5</b>	76	48	54	63	9	28	22	<b>81</b>	<b>92</b>	Swap root 81 & 5
<b>76</b>	<b>5</b>	48	54	63	9	28	22	<b>81</b>	<b>92</b>	Reheap, swap 5 & 76
76	<b>63</b>	48	54	<b>5</b>	9	28	22	<b>81</b>	<b>92</b>	Reheap, swap 5 & 63
<b>22</b>	63	48	54	5	9	28	<b>76</b>	<b>81</b>	<b>92</b>	Swap root 76 & 22
<b>63</b>	<b>22</b>	48	54	5	9	28	<b>76</b>	<b>81</b>	<b>92</b>	Reheap, swap 22 & 63
63	<b>54</b>	48	<b>22</b>	5	9	28	<b>76</b>	<b>81</b>	<b>92</b>	Reheap, swap 22 & 54
<b>28</b>	54	48	22	5	9	<b>63</b>	<b>76</b>	<b>81</b>	<b>92</b>	Swap root 63 & 28
<b>54</b>	<b>28</b>	48	22	5	9	<b>63</b>	<b>76</b>	<b>81</b>	<b>92</b>	Reheap, swap 28 & 54
<b>9</b>	28	48	22	5	<b>54</b>	<b>63</b>	<b>76</b>	<b>81</b>	<b>92</b>	Swap root 54 & 9
<b>48</b>	28	<b>9</b>	22	5	<b>54</b>	<b>63</b>	<b>76</b>	<b>81</b>	<b>92</b>	Reheap, swap 9 & 48
<b>5</b>	28	9	22	<b>48</b>	<b>54</b>	<b>63</b>	<b>76</b>	<b>81</b>	<b>92</b>	Swap root 48 & 5
<b>28</b>	<b>5</b>	9	22	<b>48</b>	<b>54</b>	<b>63</b>	<b>76</b>	<b>81</b>	<b>92</b>	Reheap, swap 5 & 28
28	<b>22</b>	9	<b>5</b>	<b>48</b>	<b>54</b>	<b>63</b>	<b>76</b>	<b>81</b>	<b>92</b>	Reheap, swap 5 & 22
<b>5</b>	22	9	<b>28</b>	<b>48</b>	<b>54</b>	<b>63</b>	<b>76</b>	<b>81</b>	<b>92</b>	Swap root 28 & 5
<b>22</b>	<b>5</b>	9	<b>28</b>	<b>48</b>	<b>54</b>	<b>63</b>	<b>76</b>	<b>81</b>	<b>92</b>	Reheap, swap 5 & 22
<b>9</b>	5	<b>22</b>	<b>28</b>	<b>48</b>	<b>54</b>	<b>63</b>	<b>76</b>	<b>81</b>	<b>92</b>	Swap root 22 & 9
<b>5</b>	<b>9</b>	22	28	48	54	63	76	81	92	Swap root 9 & 5, finish sorting heap