

Assignment 2 Part B: Testing Documentation

Assignment 2 COIS 2020H

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```
Microsoft Visual S...
Heap Matrix:
99  93  91  87  45
70  67  85  78  17
33  42  25  53  +∞
+∞  +∞  +∞  +∞  +∞

Max = 99
Size = 14
Found 45? True
Found 100? False

After removing max:
93  91  87  78  45
70  67  85  53  17
33  42  25  +∞  +∞
+∞  +∞  +∞  +∞  +∞

C:\Users\maste\source\repos\Assingment2\Assingment2\bin\Debug\net8.0\Assingment2.exe (process 26392) exited with code 0 (0x0).
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

1) P has no items if $P[0,0]$ is undefined.

$P[0,0] = 99$ is a valid number.
the matrix contains items.

Undefined - empty

Defined (99) - not empty

2) P has $m \times n$ entries if $P[m-1,n-1]$ is defined.

heap is 4×5 , so full capacity is 20 items. Not Full

3) The number of items in row k is \geq the number of items in row $k+1$.

Row 0: 5 items - 99 93 91 87 45

Row 1: 5 items - 70 67 85 78 17

Row 2: 4 items - 33 42 25 53

Row 3: 0 items - a bunch of infinities

rule:

$$5 \geq 5$$

$$5 \geq 4$$

$$4 \geq 0$$

4) The number of items in column k is \geq the number of items in column $k+1$.

Column 0 has 3 items: 99,70,33

Column 1 has 3 items: 93,67,42

Column 2 has 3 items: 91,85, 25

Column 3 has 3 items: 87,78,53

Column 4 has 2 items: 45,17

$$3 \geq 3 \geq 3 \geq 3 \geq 2$$

5) The item with the highest priority is found at $P[0,0]$.

99 is the largest value in the entire list.