

HW2 - REPORT

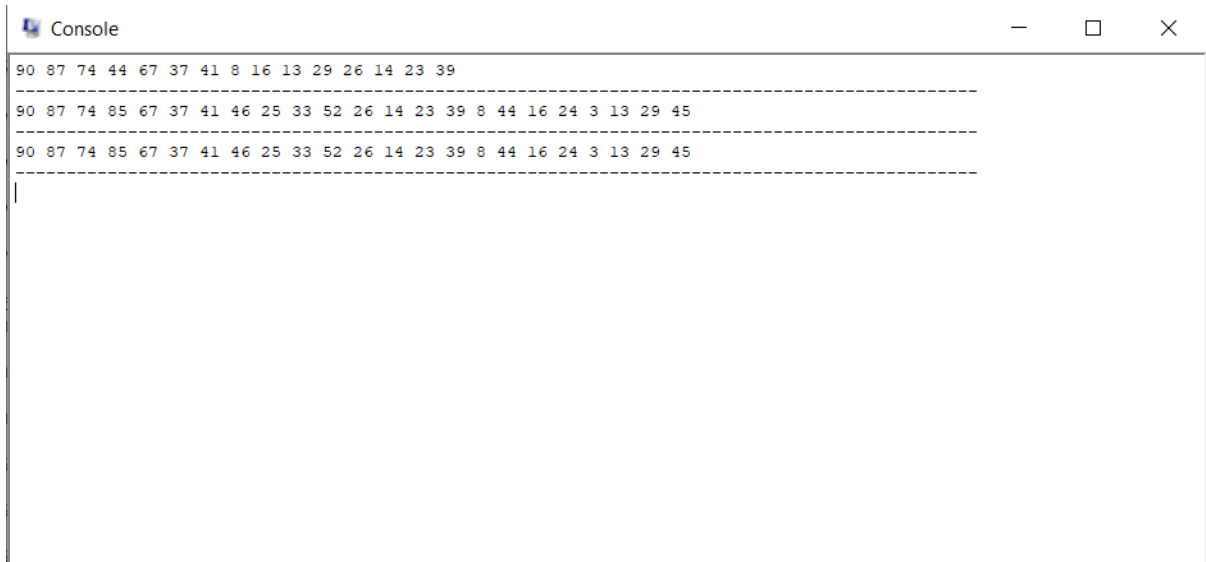
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Firstly i create the first node in the build label then call insert label until the reach -1. i use heapify function insert label. if swap necessary then its swaps. I use formula that find parent left and right child w.r.t. array based implementation of max heap. Every insertion operation , it heapify the structure. Lastly i print the values of nodes from array of base node address. I try to solve remove part and my strategy was right but some register problems happened. I upload with remove code but commented jal remove call in main function for execute without problem.

The below picture shows nodes in memory second column is value and left child, right child and parent address respectively.

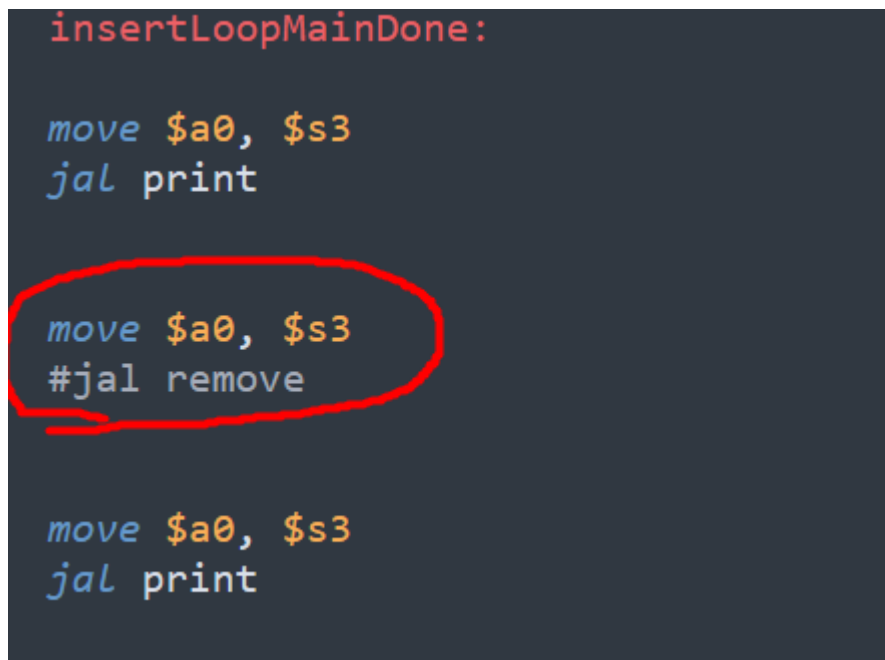
[10040000]	0000000090	0268697616	0268697632	0000000000
[10040010]	0000000087	0268697648	0268697664	0268697600
[10040020]	0000000074	0268697680	0268697696	0268697600
[10040030]	0000000085	0268697712	0268697728	0268697616
[10040040]	0000000067	0268697744	0268697760	0268697616
[10040050]	0000000037	0268697776	0268697792	0268697632
[10040060]	0000000041	0268697808	0268697824	0268697632
[10040070]	0000000046	0268697840	0268697856	0268697648
[10040080]	0000000025	0268697872	0268697888	0268697648
[10040090]	0000000033	0268697904	0268697920	0268697664
[100400a0]	0000000052	0268697936	0268697952	0268697664
[100400b0]	0000000026	0000000000	0000000000	0268697680
[100400c0]	0000000014	0000000000	0000000000	0268697680
[100400d0]	0000000023	0000000000	0000000000	0268697696
[100400e0]	0000000039	0000000000	0000000000	0268697696
[100400f0]	0000000008	0000000000	0000000000	0268697712
[10040100]	0000000044	0000000000	0000000000	0268697712
[10040110]	0000000016	0000000000	0000000000	0268697728
[10040120]	0000000024	0000000000	0000000000	0268697728
[10040130]	0000000003	0000000000	0000000000	0268697744
[10040140]	0000000013	0000000000	0000000000	0268697744
[10040150]	0000000029	0000000000	0000000000	0268697760
[10040160]	0000000045	0000000000	0000000000	0268697760

Below picture is console output.



```
Console
90 87 74 44 67 37 41 8 16 13 29 26 14 23 39
-----
90 87 74 85 67 37 41 46 25 33 52 26 14 23 39 8 44 16 24 3 13 29 45
-----
90 87 74 85 67 37 41 46 25 33 52 26 14 23 39 8 44 16 24 3 13 29 45
-----
```

Remove function commented.



```
insertLoopMainDone:

move $a0, $s3
jal print

move $a0, $s3
#jal remove

move $a0, $s3
jal print
```

Reference:

1-) Lecture Slides

2-) Lab session documents