## Integration Test

INPUT : len , { weights of len+1 number of nodes}
OUTPUT :

```
        /*program outputs       index of the node
                                index of left child  (If child node is not present then -1)
                                index of right child(If child node is not present then -1)
                                weight of the node
                                the depth of the node(depth 0 represents root node of tree)
        */
```

------------------------------------------------------------------------------------------------------------------------

**Test case 1:**

input :

5 , { 1024, 4532, 23154, 52302, 51324, 95247 }

output :

```
        0       -1      -1      1024            5
        1       -1      -1      4532            5
        2       -1      -1      23154           4
        3       -1      -1      52302           3
        4       -1      -1      51324           2
        5       -1      -1      95247           1
        6       0       1       5556            4
        7       6       2       28710           3
        8       7       3       81012           2
        9       8       4       132336          1
        10      9       5       227583          0
```

------------------------------------------------------------------------------------------------------------------------

**Test case 2:**

input :

```
    13 , {4, 12, 7, 1, 8, 9, 10, 14, 2, 3, 8, 15, 6, 5}
```

output :

```
0       -1      -1      4       4
1       -1      -1      12      4
2       -1      -1      7       5
3       -1      -1      1       5
4       -1      -1      8       4
5       -1      -1      9       3
6       -1      -1      10      3
7       -1      -1      14      3
8       -1      -1      2       5
9       -1      -1      3       5
10      -1      -1      8       4
11      -1      -1      15      3
12      -1      -1      6       4
13      -1      -1      5       4
14      12      13      11      3
15      11      14      26      2
16      8       9       5       4
17      16      10      13      3
18      7       17      27      2
19      18      15      53      1
20      5       6       19      2
21      2       3       8       4
22      21      4       16      3
23      0       1       16      3
24      23      22      32      2
25      24      20      51      1
26      25      19      104     0
```

------------------------------------------------------------------------------------------------------------------

**Test case 3:**

input :

```
26 {186 64 13 22 32 103 21 15 47 57 1 5 32 20 57 63 15 1 48 51 80 23 8 18 1 16 1}
```

output:

```
 0      -1      -1      186     2
1       -1      -1      64      4
2       -1      -1      13      6
3       -1      -1      22      6
4       -1      -1      32      5
5       -1      -1      103     4
6       -1      -1      21      6
7       -1      -1      15      6
8       -1      -1      47      5
9       -1      -1      57      4
10      -1      -1      1       7
11      -1      -1      5       7
12      -1      -1      32      6
13      -1      -1      20      5
14      -1      -1      57      4
15      -1      -1      63      4
16      -1      -1      15      6
17      -1      -1      1       6
18      -1      -1      48      5
19      -1      -1      51      4
20      -1      -1      80      4
21      -1      -1      23      6
22      -1      -1      8       6
23      -1      -1      18      6
24      -1      -1      1       8
25      -1      -1      16      8
26      -1      -1      1       7
27      24      25      17      7
28      27      26      18      6
29      23      28      36      5
30      21      22      31      5
31      30      29      67      4
32      20      31      147     3
33      16      17      16      5
34      33      18      64      4
35      34      19      115     3
```

| | | | | |
|---|---|---|---|---|
| 36 | 35 | 32 | 262 | 2 |
| 37 | 14 | 15 | 120 | 3 |
| 38 | 10 | 11 | 6 | 6 |
| 39 | 38 | 12 | 38 | 5 |
| 40 | 39 | 13 | 58 | 4 |
| 41 | 9 | 40 | 115 | 3 |
| 42 | 41 | 37 | 235 | 2 |
| 43 | 42 | 36 | 497 | 1 |
| 44 | 6 | 7 | 36 | 5 |
| 45 | 44 | 8 | 83 | 4 |
| 46 | 5 | 45 | 186 | 3 |
| 47 | 2 | 3 | 35 | 5 |
| 48 | 47 | 4 | 67 | 4 |
| 49 | 1 | 48 | 131 | 3 |
| 50 | 49 | 46 | 317 | 2 |
| 51 | 0 | 50 | 503 | 1 |
| 52 | 51 | 43 | 1000 | 0 |

--------------------------------------------------------------------------------------------------------------------------