Rachel Doogue, C00237335

23, 73, 35

Question 1

a. 58 = pivot

$\underrightarrow{47}$, $\underline{74}$, 8, 58, 3, 21, 73, 89, 23, $\underleftarrow{35}$

35, 47, 8, 58, 3, 21, 73, 89, 23, 74

b.○ Del First() {

   node * current = inHead;

   delete (current)

   return inHead
   }

○ Del Next () {

   node * current = inHead;

   while (current != Null) {

   if ((current -1) = p) {

    delete (current → next)
   }
   else {
    current = current → next)
   }

○ DelPrevious () {

```
node * current = inHead

while ( current != Null) {
    if ( current = p) {
```

○ Find Last () {

```
node * current = inHead

while ( current != Null) {
    if (current -> next != Null) {
        delete (current)
    }
    else {
        current = current -> next
    }
}
}
```

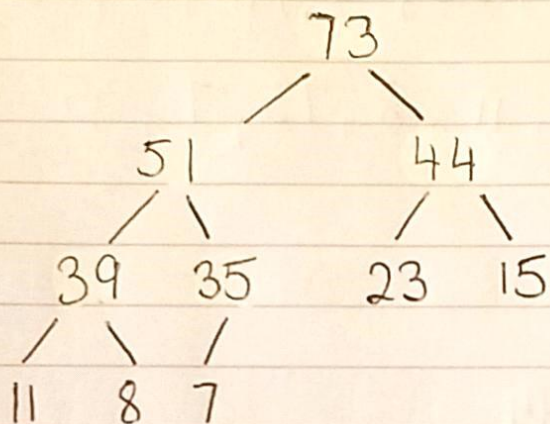c i. digit = 35   output = 33

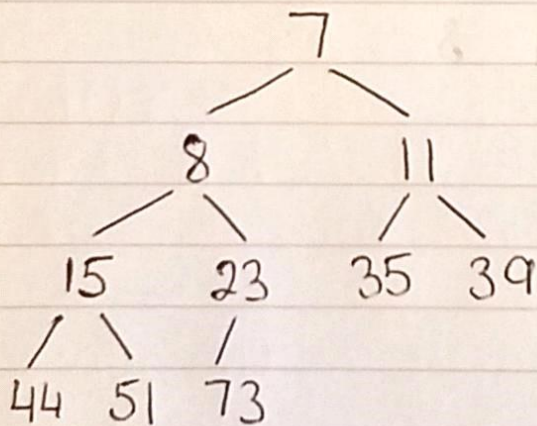ii. int FunS(int n) {

```
if (n > 0) {
    n = (n - 2)
    return n
}
}
```

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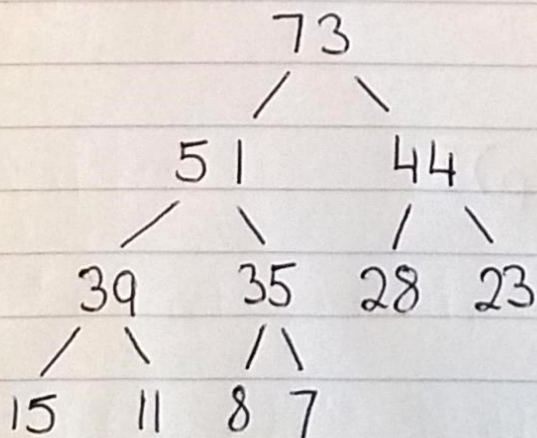
Question 2

a

```
                    73                    max - heap
                  /    \
                51      44
               /  \    /  \
             39   35  23   15
            / \   /
           11  8 7
```

```
                    7                     min - heap
                  /    \
                8       11
               / \     /  \
             15   23  35   39
            / \   /
           44  51 73
```

b

```
                    73
                  /    \
                51      44
               /  \    /  \
             39   35  28   23
            / \   / \
           15  11 8  7
```

d. 73 , 51 , 44 , 39 , 35 , 33 , 15 , 11 , 8 , 7

pass 1: 7 , 51 , 44 , 39 , 35 , 33 , 15 , 11 , 8 , 73

pass 2: 51 , 39 , 44 , 33 , 15 , 11 , 8 , 73 , 7 , 35

```
              51
             /  \
           39    44
          / \   / \
        33  15 11  8
       / \  /
     73  7 35
```
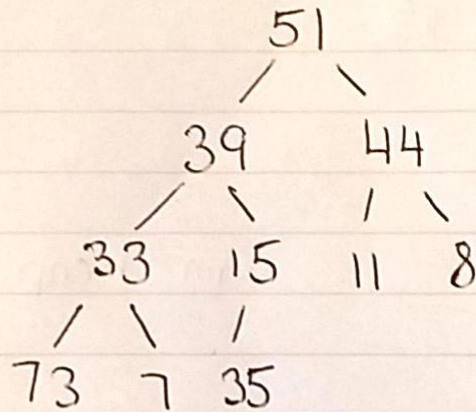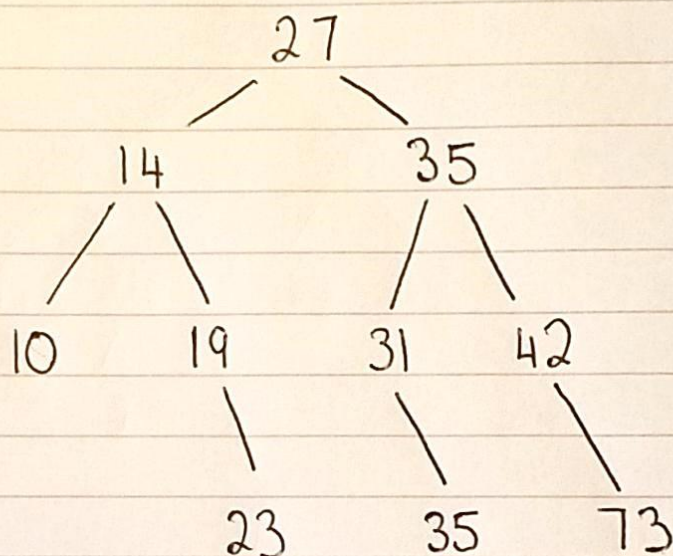
c. Parent (p) {

   left
   right

   if(left = p || right = p) {

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Question 3

a i.

```
                    27
                  /    \
               14       35
              /  \      /  \
            10    19  31    42
                   |    |     \
                  23   35     73
```

ii.

```
              35
             /    \
           14      42
          /  \       \
        10    19      73
               |
              23
                \
                31
                  \
                  35
```