10. The table below holds student names and scores, from a class test.

NAME	SCORE
Ann Taylor	10
Boris Penn	18
Ivan Troth	8
Peter Hu	9
Mary Looty	7

(a) Draw a diagram to show how the data given in the table could be stored in a binary tree in the order of scores. Data should be inserted into the binary tree in the order given in the table (*ie* data about Ann Taylor is to be inserted first). [3]

(b) The same data could be inserted into a singly linked list in descending order of scores. Draw a diagram of this singly linked list. [3]

(c) Compare the data structures in part (a) and part (b) in terms of:

(i) searching [2]

(ii) storage requirements. [2]

(d) Consider the following **recursive** algorithm, in which `X` and `Y` are parameters in the method `F`. The `return` statement gives the value that the method generates.

```
F(X,Y)
     if X < Y then
         return F(X+1,Y-2)
     else if X = Y
         return 2*F(X+2,Y-2)-2
     else
         return 2*X+4*Y
     end if
```

Determine the value of `F(5,11)`. [5]