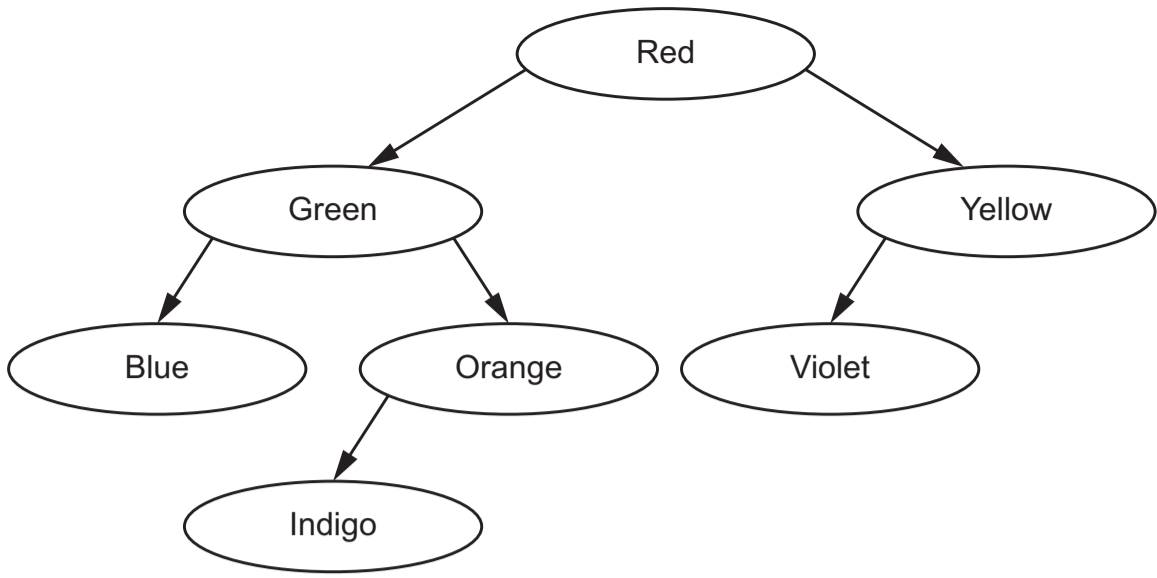


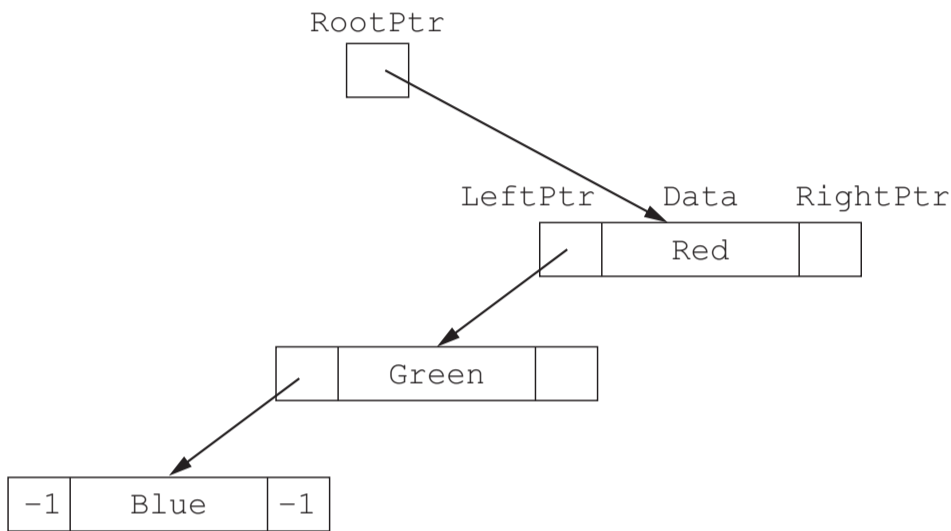
11 The following diagram shows an ordered binary tree.



(a) A linked list of nodes is used to store the data. Each node consists of a left pointer, the data and a right pointer.

-1 is used to represent a null pointer.

Complete this linked list to represent the given binary tree.



[4]

(c) The linked list in part (a) is implemented using a 1D array of records. Each record contains a left pointer, data and a right pointer.

The following pseudocode represents a function that searches for an element in the array of records `BinTree`. It returns the index of the record if the element is found, or it returns a null pointer if the element is **not** found.

Complete the pseudocode for the function.

```

FUNCTION SearchTree(Item : STRING) .....

  NowPtr ← .....
  WHILE NowPtr <> -1
    IF ..... THEN
      NowPtr ← BinTree[NowPtr].LeftPtr
    ELSE
      IF BinTree[NowPtr].Data < Item THEN
        .....
      ELSE
        RETURN NowPtr
      ENDIF
    ENDIF
  ENDWHILE
  RETURN NowPtr
ENDFUNCTION
  
```

[4]