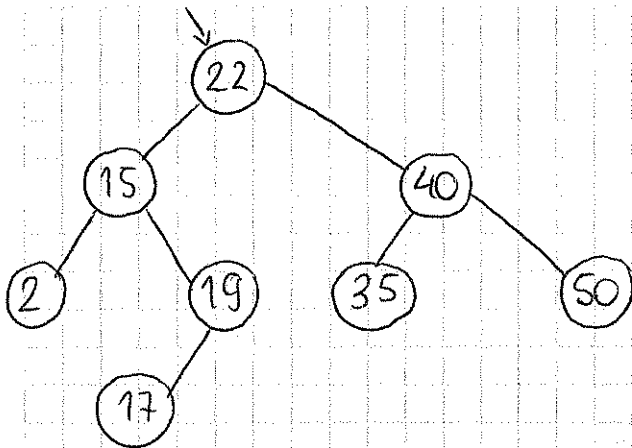


21-05-2010

Carla Alexandra da Silva Braga - 57804

LET-T-(50)



```
ARVBin procura (ARVBin a, int n) {  
    if (!a)  
        return a;  
    else  
        if (a->valor == n) return a;  
        else  
            if (a->valor > n)  
                return procura (a->esq, n);  
            else  
                return procura (a->dir, n);  
}
```

```
int efolha (ARVBin a) {  
    return (!a->esq) && (!a->dir);  
}
```

ou

```
int efolha (ARVBin a) {  
    return (!a->esq) && (!a->dir) ? 1 : 0;  
}
```

AVL Bin remNode (AVL Bin a, int n)

if (!a) return a;

else if (a->val == n) { free(a); return NULL; }

else { a->val = max(a->esq, a->val); a->esq = remNode(a->esq, a->val); return a; }

else if (a->val > n) { a->esq = remNode(a->esq, n); return a; }

else { a->dir = remNode(a->dir, n); return a; }

}

AVL Bin pemNode (AVL Bin a, int n)

```

{
  if (!a) return a;
  else
  {
    if (a->valor == n)
    {
      if (isLeaf(a))
      {
        free(a);
        return NULL;
      }
      else
      {
        if (a->esq)
        {
          a->valor = maiorE(a->esq);
          a->esq = pemNode(a->esq, a->valor);
        }
        else
        {
          a->valor = maiorD(a->dir);
          a->dir = pemNode(a->dir, a->valor);
        }
      }
    }
    return a;
  }
  else
  {
    if (a->valor > n)
    {
      a->esq = pemNode(a->esq, n);
      return a;
    }
    else
    {
      a->dir = pemNode(a->dir, n);
      return a;
    }
  }
}

```

```

int mayorE (Arv Bin a)
{
  if (!a->dir) return a->valor;
  else mayorE (a->dir);
}

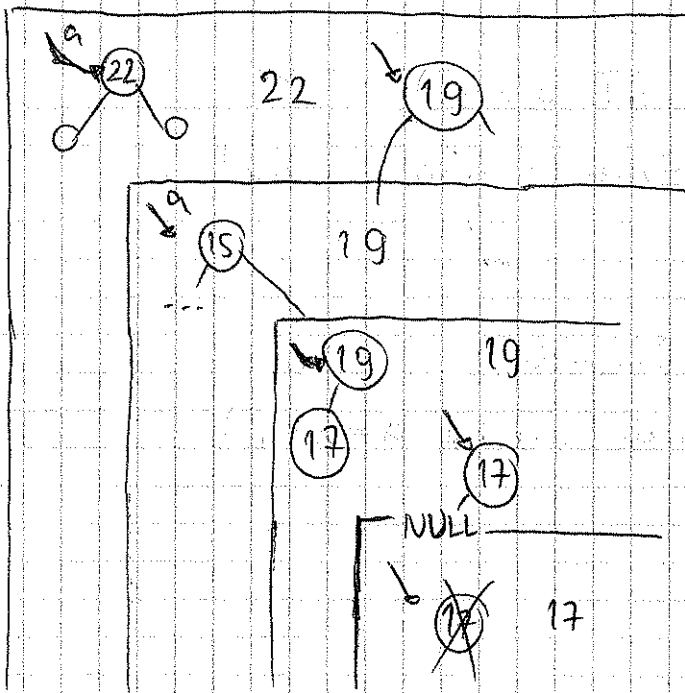
```

```

int menorD (Arv Bin a)
{
  if (!a->esq) return a->valor;
  else menorD (a->esq);
}

```

$a_1 = \text{remNode}(a_1, 22);$



```

int profundidad (Arv Bin a)
{
  if (!a) return 0;
  else return 1 + max(profundidad (a->esq), profundidad (a->dir));
}

```

LEI - T - (54)

