**(P1)**

**from**

*i:=1;j:=n*

**until** *i = j* **loop**

*m:=(i+j)//2*

**if** *t[m]<=x***then**

*i:=m -----i:= m + 1*

**else**

*j:=m ----- j:= m + 1*

**end**

**end**

**Result** *:= (x = t[i])*

**(P2)**

**from***i:=1;j:=n;***Result***:=* **False**

**until** *i = j* **and not Result loop ----- until i = j and Result loop** *m:=(i+j)//2*

**if** *t[m]<x* **then**

*i:=m+1*

**elseif** *t [m] = x* **then**

**Result := True**

**else**

*j:=m-1*

**end**

**end**

**(P3)**

**from**

*i:=0;j:=n; -----i:=1*

**until**

*i = j*

**loop**

*m:=(i+j+1)//2 ----- (i+j)*

**if** *t[m]<=x* **then**

*i:=m+1*

**else**

*j:=m ----- j:=m-1*

**end**

**end  
if** *i>=1* **and** *i<=n* **then**

**Result** *:= (x = t [i])*

**else**

**Result := False**

**Result := (x = t[i])**

**end**

**(P4)**

**from**

*i:=0;j:=n+1;* **----- i:=1; j:=n**

**until** *i = j* **loop**

*m:=(i+j)//2*

**if** *t[m]<=x* **then**

*i:=m+1*

**else**

*j:=m ----- j:=m -1*

**end**

**end**

**if** *i>=1* **and** *i<=n* **then**

**Result** *:= (x = t [i])*

**else** **Result := False**

**Result:= (x=t[i])**

**end**