Analiza algoritmilor
Arbori binari

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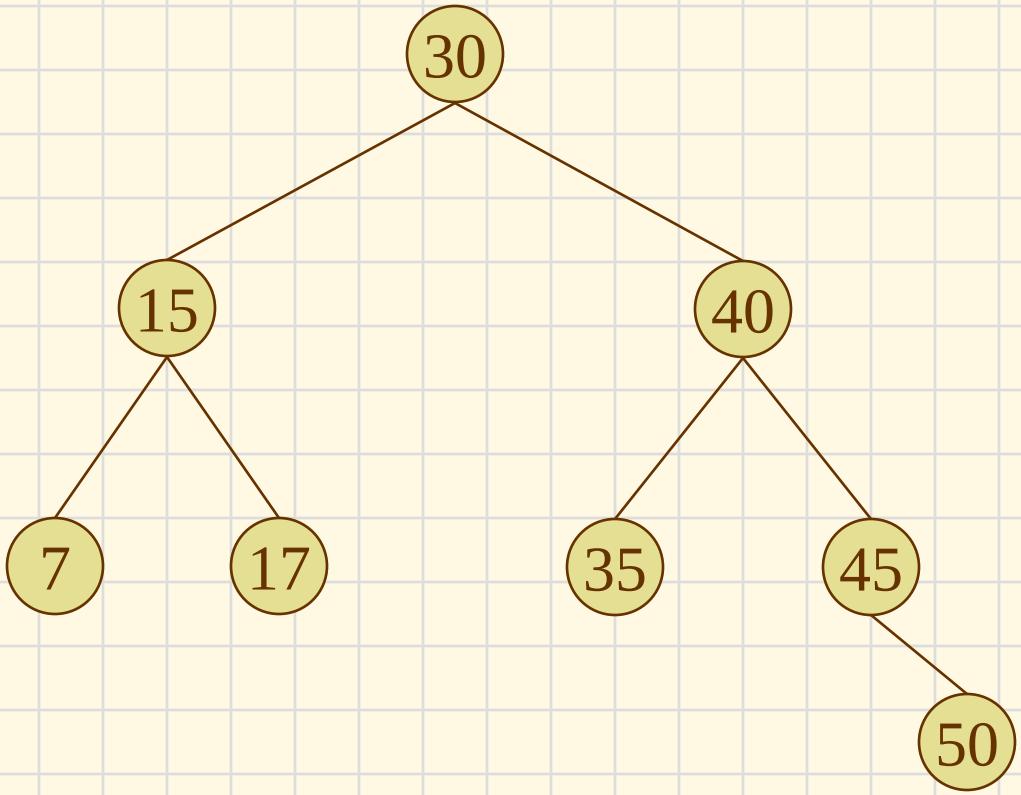
Arbori binari ordonati (ABO)

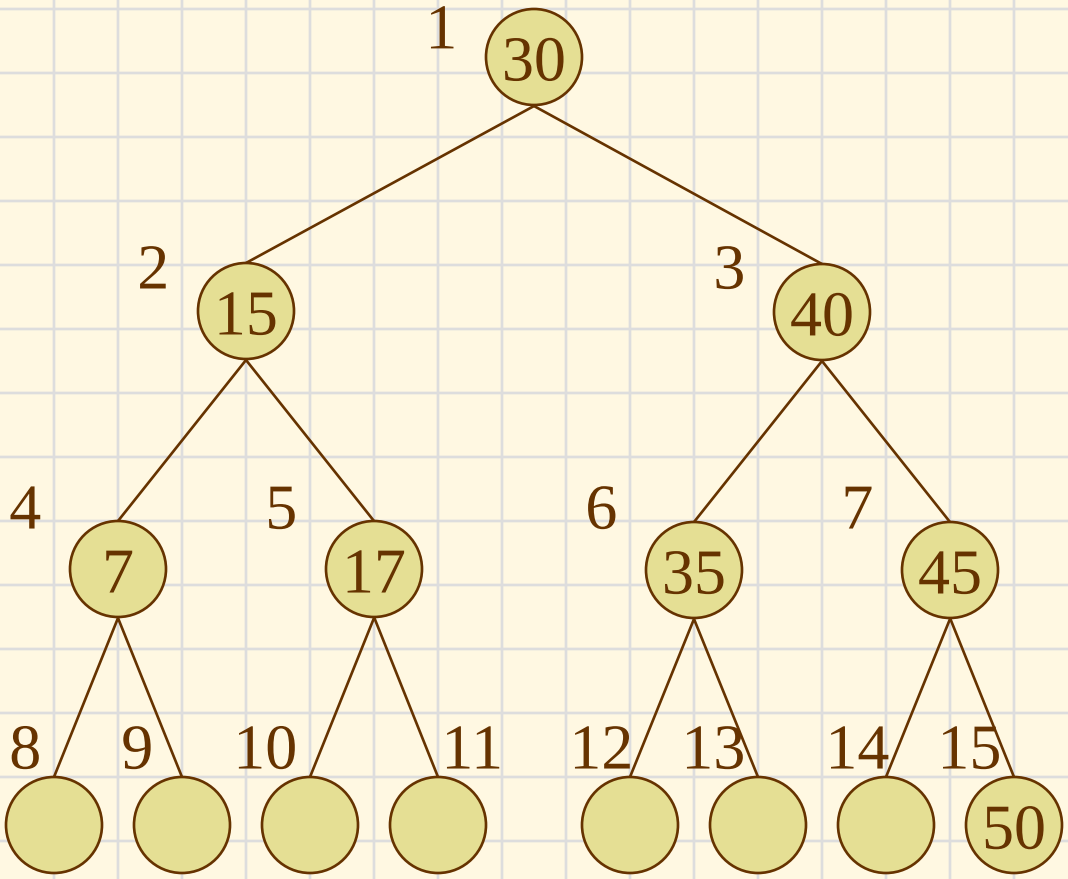
- ABO = arbori binari care la parcursi in inordine prezinta cheile ordonate crescator
- in consecinta pentru fiecare nod in subarborele stang se vor gasi cheile mai mici decat cea din nod si in subarborele drept cheile mai mari decat aceasta

Exemplu de ABO



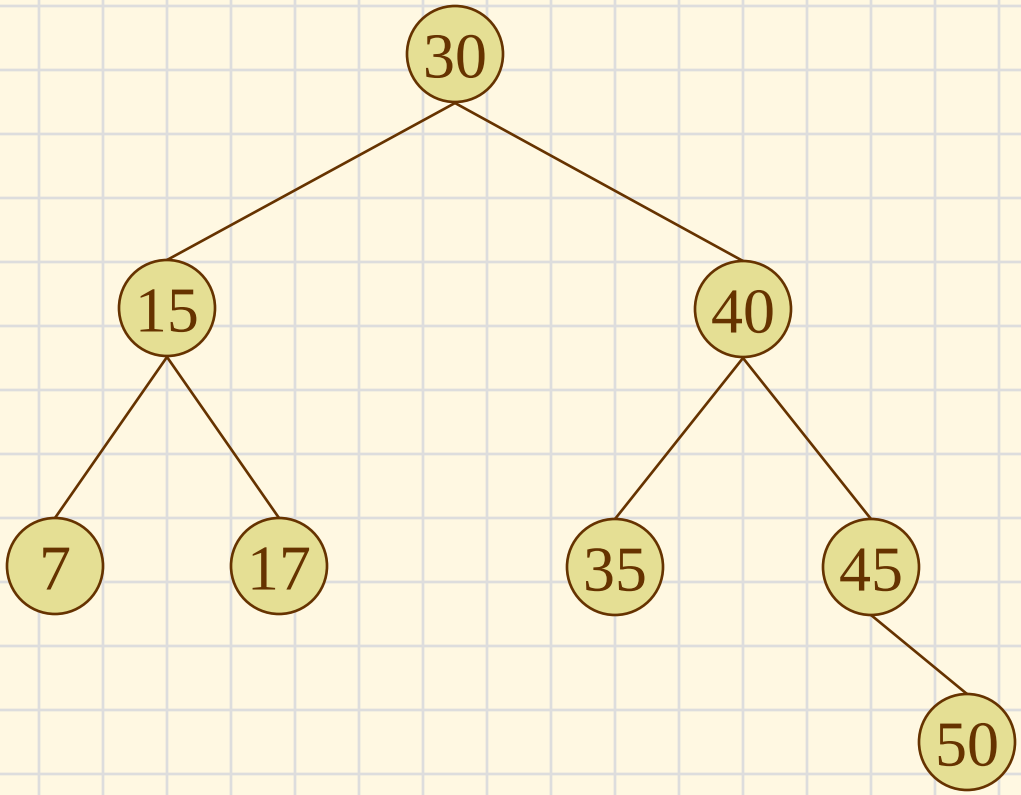
inordine: 7, 15, 17, 30, 35, 40, 45, 50

Implementare cu tablouri



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
30	15	40	7	17	35	45								50

Constructia unui ABO

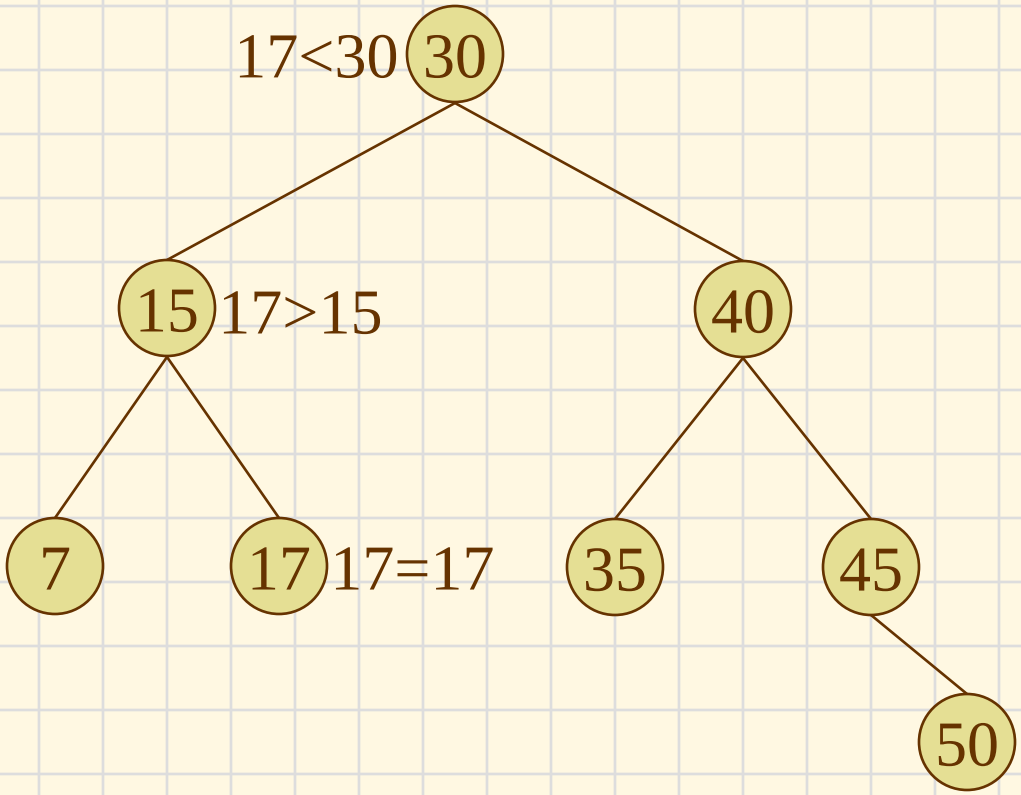


30, 15, 40, 7, 17, 35, 45, 50

Adaugare unui nod

```
NOD *adaugare(NOD *p,int cheie)
{   if(p!=NULL)
    {
          if(cheie<p->cheie)
          {p->st=adaugare(p->st,cheie);}
          else
          {
                    if (cheie>p->cheie)
                    {p->dr=adaugare(p->dr,cheie);}
          }
    }
    else
    {     if((p=(nod*)malloc(sizeof(nod)))==NULL)
          {printf("Eroare\n");}
          else
          {         p->cheie=cheie; p->st=NULL; p->dr=NULL;
          }
    }
    return p;
}
```

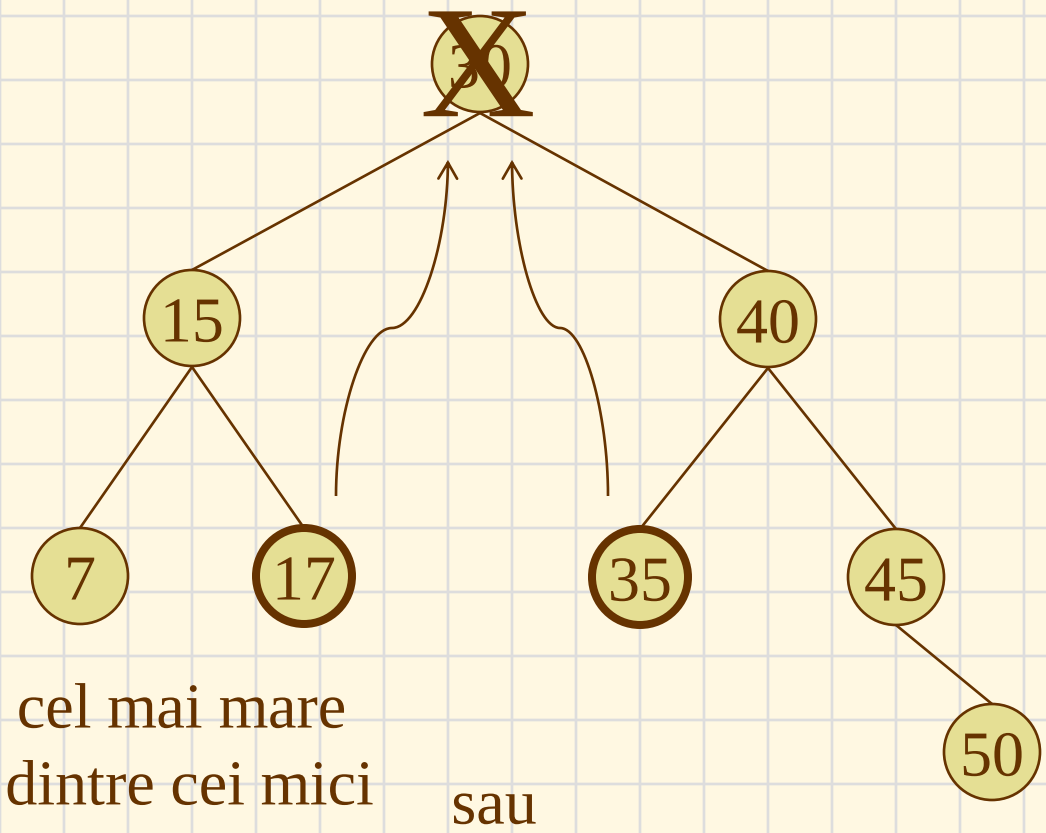
Cautarea unui nod (17)



Cautare nod

```
NOD* cautare_nod(NOD *p,int cheie)
{
    if(p!=NULL)
    {
        if(p->cheie==cheie)
        {
            return p;
        }
        else
        {
            if(cheie<p->cheie)
            {
                return cautare_nod(p->st,cheie);
            }
            else
            {
                return cautare_nod(p->dr,cheie);
            }
        }
    }
```

Stergerea unui nod (30)



cel mai mare
dintre cei mici

sau

cel mai mic
dintre cei mai mari