



# Projet d'ouverture

Master 1 : STL  
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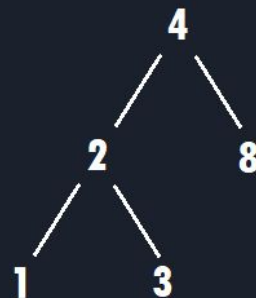


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# Types Utilisés

```
type abr = |Empty  
          |Node of {etq : int ; fg : abr; fd : abr};;
```



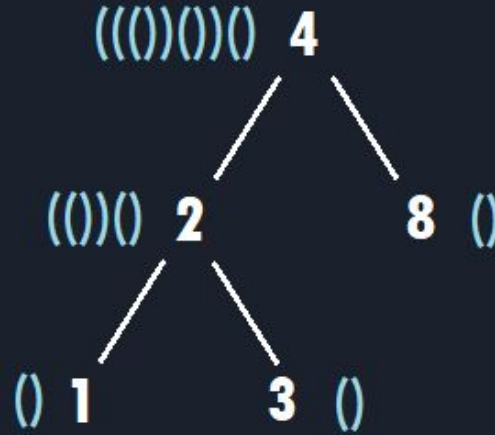
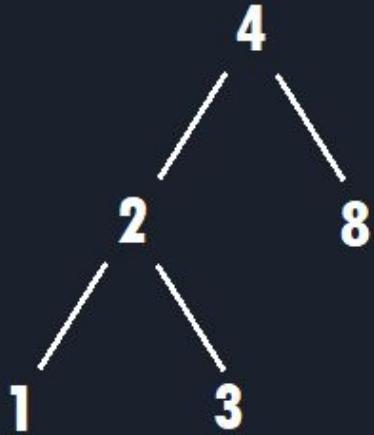
```
type noeud = |Etq of int  
            |Couple of {etq : int; liste : string list};;
```

```
type comp = |Empty  
            |Symbole of string * comp ref  
            |NodeC of {etq : noeud list; fg : comp ref ; fd : comp ref };;
```



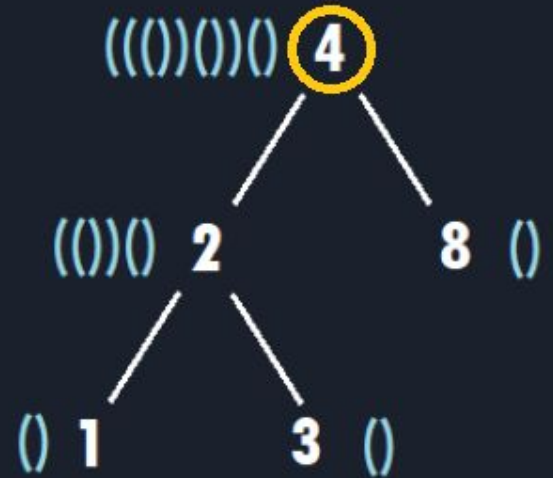
```
type comp_map = |EmptyM  
                |SymboleM of string * comp_map ref  
                |NodeM of {etq : (int,string list) Hashtbl.t ; fg : comp_map ref ; fd : comp_map ref }
```

# Compression ABR





Compression **abr** []:

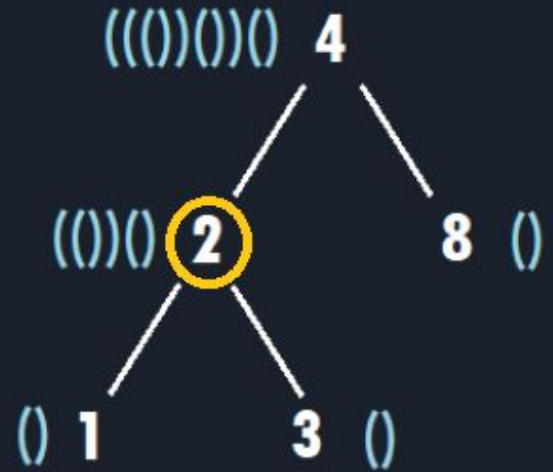




Compression abr []:

Let fg =

Compression **abr** []:





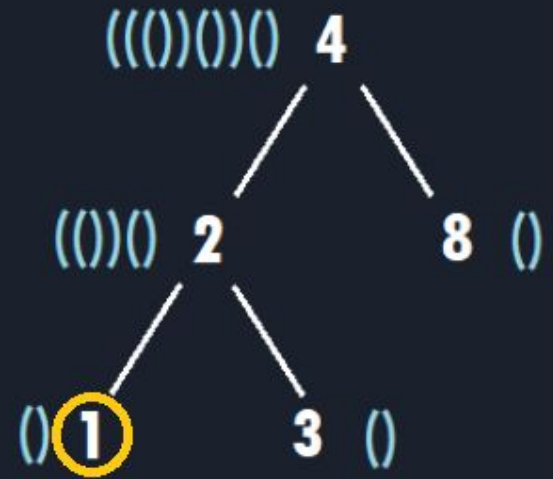
Compression abr []:

Let fg =

Compression abr []:

Let fg =

Compression **abr** []:





Compression abr []:

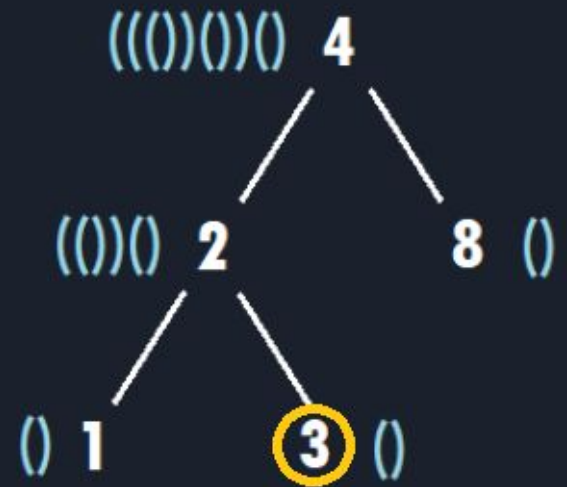
Let fg =

Compression abr []:

Let fd =

Let fg = {etq: [1];fg=E;fd=E }

Compression **abr** [**S1**]:



1

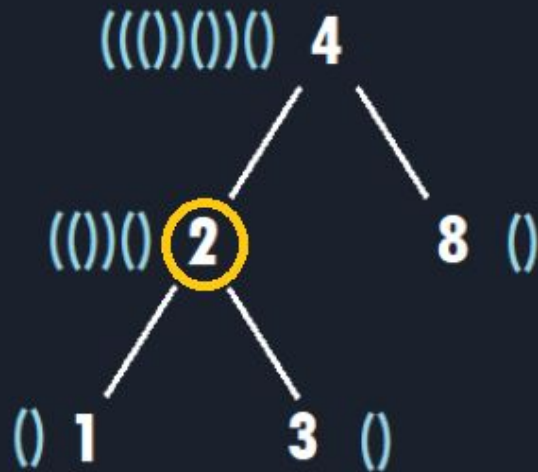


Compression abr []:

Let fg = {etq:[2]; fg: ref; fd: (S1,ref)}

Let fg = {etq: [1]; fg=E; fd=E }

Let fd = {etq: [ 1 , (3,[S1]) ]; fg=E; fd=E }

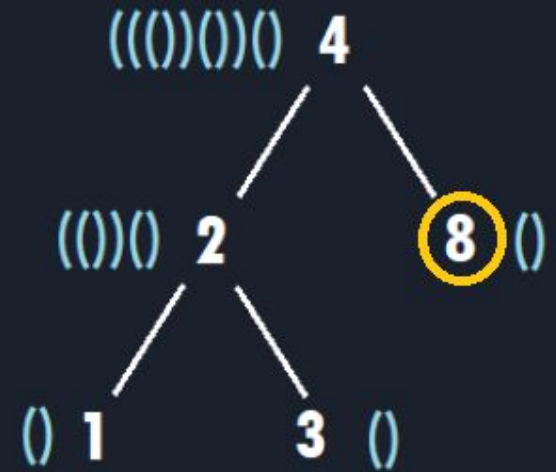




Compression abr []:

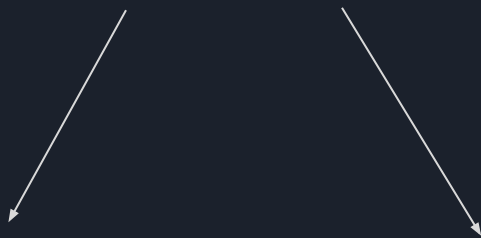
Let fg = {etq:[2]; fg: ref; fd: (S1,ref)

Compression abr [S2]:



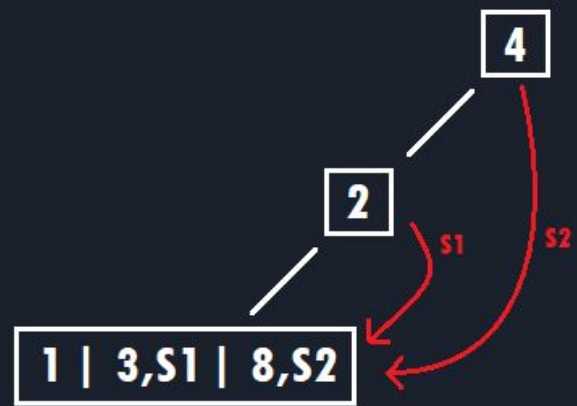
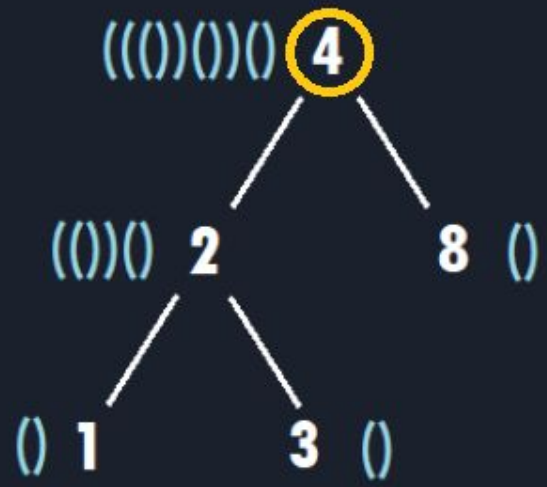


{etq:[4]; fg: ref; fd(S2,ref)}



Let fg = {etq:[2]; fg: ref; fd: (S1,ref)}

Let fd = {etq: [ 1 ; (3,[S1]) ;  
(8,[S2]) ; fg=E; fd=E }



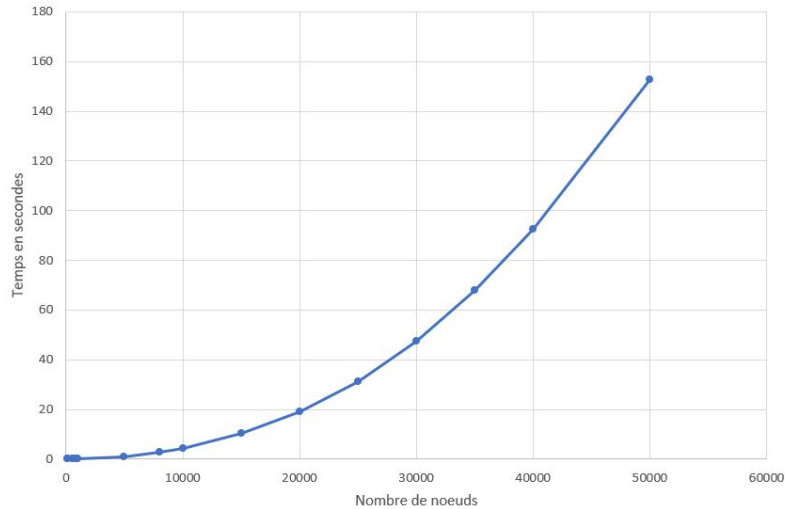
# Temps de compression de l'abr

**LISTE**

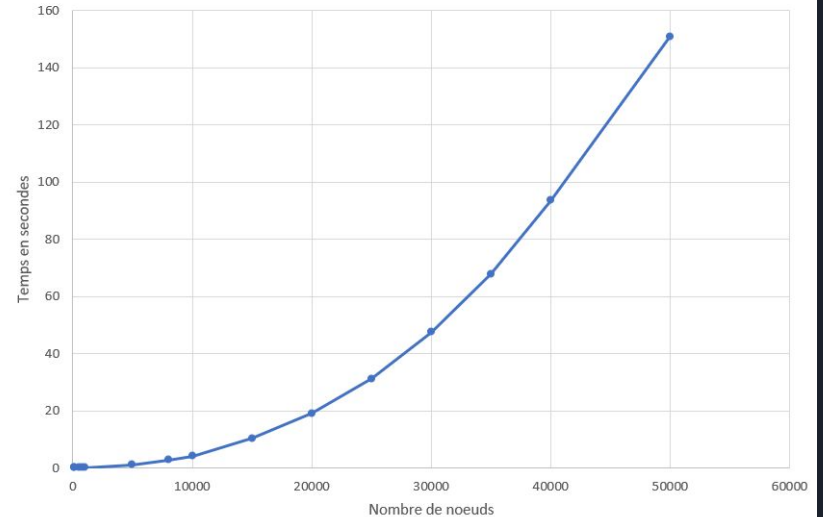
Complexité  $O(n^2)$

**MAP**

Temps de compression d'un ABR (liste)



Temps de compression d'un ABR (Map)



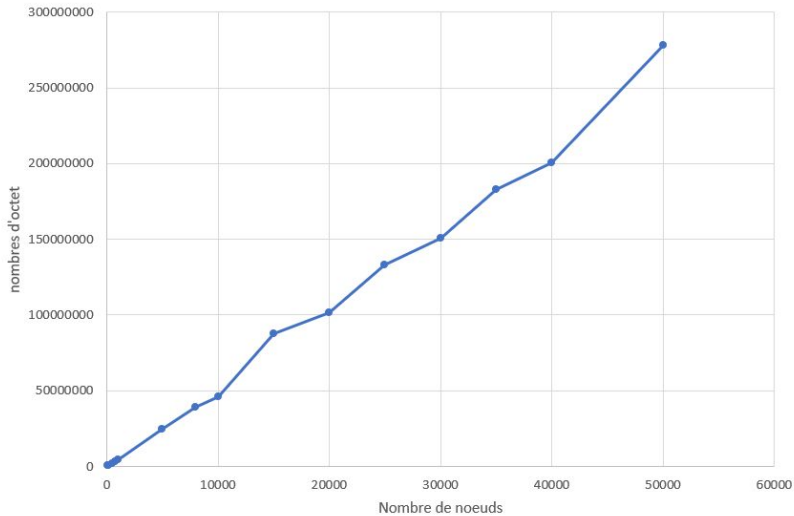
# Espace mémoire de la compression

**LISTE**

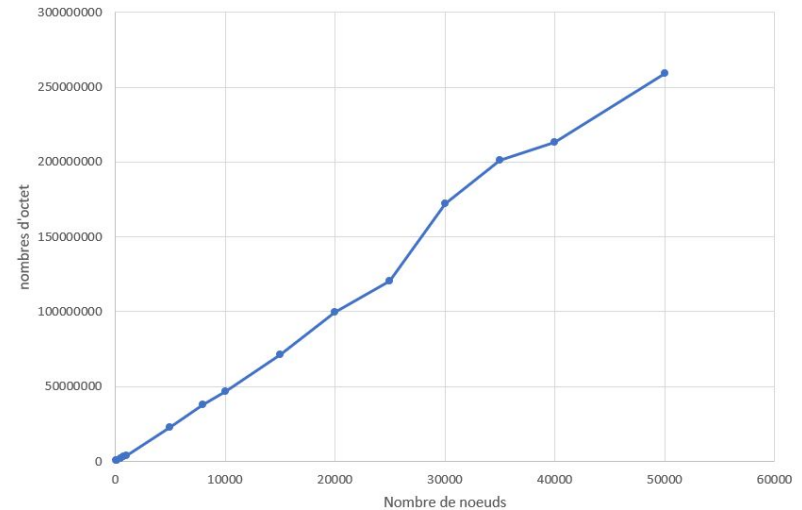
Complexité  $O(n)$

**MAP**

Espace mémoire compression d'un ABR (Liste)

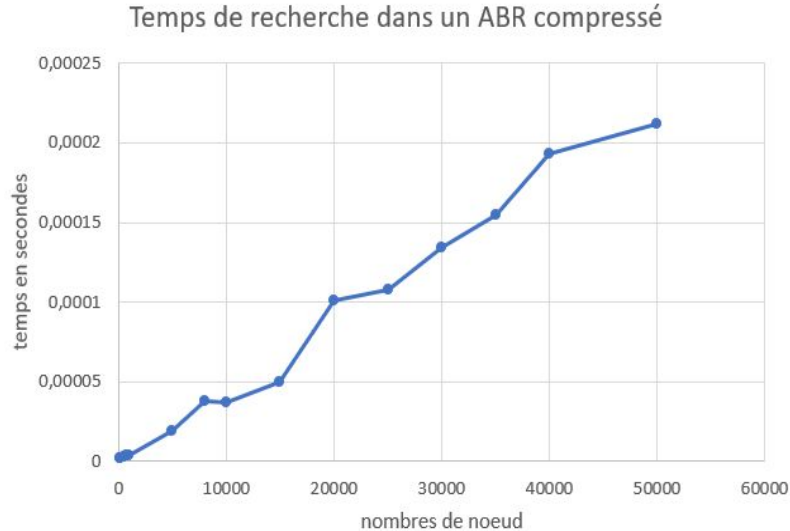


Espace mémoire compression d'un ABR (Map)



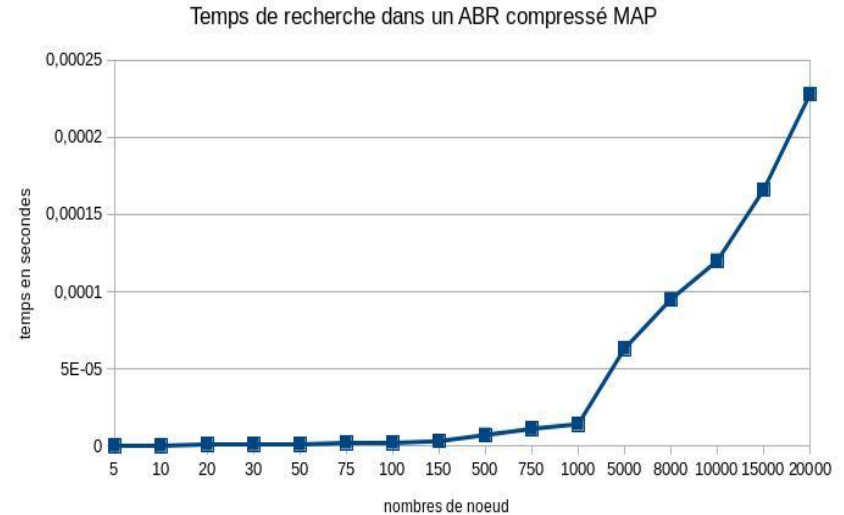
# Temps moyen de recherche

## LISTE



Complexité  $O(n)$

## MAP



Complexité  $O(\log n)$



Merci de votre attention