Eléments de correction du bac blanc

Exercice 1 :

1

```
def __init__(self, nature, surface, prix_moy):
        self.nt = nature
        self.sf = surface
        self.pm = prix_moy
```

2

L'instruction b1.estim_prix() renvoie 140000.0 (estimation du prix de b1) ; la valeur renvoyée est de type flottant, car self.sf et self.pm sont de type flottant.

3

```
def estim_prix(self):
        prix_brut = self.sf * self.pm
        if self.nt=='maison':
            return prix_brut*1.1
        elif self.nt=='bureau':
            return prix_brut*0.8
        else :
            return prix_brut
```

4

```
def nb_maison(lst):
    compteur = 0
    for b in lst :
        if b.nt=='maison':
            compteur = compteur + 1
    return compteur
```

5a

on effectue un parcours infixe : b2 - b4 - b1 - b5 - b3 - b6

5b

```
def contient(surface,abr):
    if abr.est_vide():
        return False
    elif abr.get_v().sf >= surface:
        return True
    else :
        return contient(surface, abr.get_d())
```

Exercice 2 :

1

R2 (utilisation de *)

2a

```
SELECT nom, avis
FROM Client
INNER JOIN Reservation ON  Client.idClient = Reservation.idClient
WHERE jour = '2021-06-05' AND heure = '19:30:00'
```

2b

```
SELECT nom
FROM Plat
INNER JOIN Commande ON Plat.idPlat = Commande.idPlat
INNER JOIN Reservation ON  Reservation.idReservation =
Commande.idReservation
WHERE (Categorie = 'plat principal' OR Categorie = 'dessert') AND jour =
'2021-04-12'
```

3

Cette requête permet d'ajouter un plat qui aura pour idPlat 58, pour nom "Pêche Melba", pour catégorie "dessert", pour description "Pêches et glace vanille" et pour prix 6,5 euros.

4a

```
DELETE FROM Commande
WHERE idReservation = 2047
```

4b

```
UPDATE Plat
SET prix = prix+0.05*prix
WHERE prix < 20.0
```

Exercice 3 :

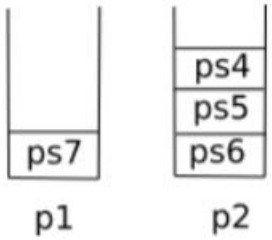
1

file

2

```
def ajouter(lst,proc):
    lst.append(proc)
```

3



4a

```
def est_vide(f):
    return pile_vide(f[0]) and pile_vide(f[1])
```

4b

```
def enfiler(f,elt):
    empiler(f[0],elt)
```

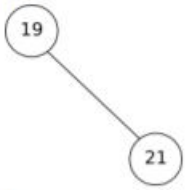
4c

```
def defiler(f):
    p1 = f[0]
    p2 = f[1]
    if pile_vide(p2):
        while not pile_vide(p1):
            v = depiler(p1)
            empiler(p2,v)
    return depiler(p2)
```

Exercice 4 :

1 a
4 feuilles : 12 ; val ; 21 ; 32

1 b

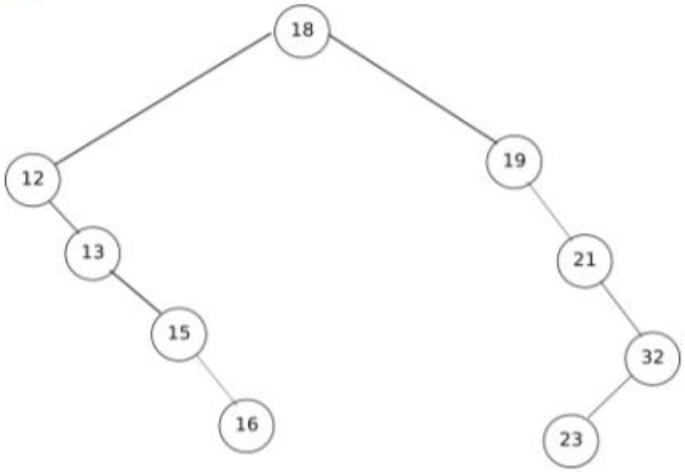


1 c
hauteur = 4 ; taille = 9

1 d
16 ou 17

2 a
infixe : 12 – 13 – 15 – 16 – 18 – 19 – 21 – 23 – 32
suffixe : 12 – 13 – 16 – 15 – 21 – 19 – 32 – 23 – 18

3 a



3 b

```
racine = Noeud(18)
racine.insere_tout([15, 23, 13, 16, 12, 19, 21, 32])
```

il y a d'autres solutions possibles, par exemple :

```
racine = Noeud(18)
racine.insere_tout([15, 13, 12, 16, 23, 19, 21, 32])
```

3 c
bloc 3 – bloc 2 – bloc 1

4

```
def recherche (self,v):
        n = self
        while n is not None:
            if v < n.v:
                n = n.ag
            elif v > n.v:
                n = n.ad
            else:
                return True
        return False
```

Exercice 5 :

Partie A

1

```
lab2[1][0] =  2
```

2

```
def est_valide(i,j,n,m):
    return i>=0 and j>=0 and i<n and j<m
```

3

```
def depart(lab):
    n = len(lab)
    m = len(lab[0])
    for i in range(n):
        for j in range(m):
            if lab[i][j]==2:
                return (i,j)
```

4

```
def nb_cases_vides(lab):
    n = len(lab)
    m = len(lab[0])
    compt = 0
    for i in range(n):
        for j in range(m):
            if lab[i][j]==2 or lab[i][j]==3 or lab[i][j]==0:
                compt = compt + 1
    return compt
```

Partie B

1

L'appel de la fonction renvoie : `[(2, 2), (1, 1)]`

2a

```
# entrée: (1, 0), sortie (1, 5)
chemin = [(1, 0)]
chemin.append((1,1))
chemin.append((2,1))
chemin.pop()
chemin.append((1,2))
chemin.append((1,3))
chemin.append((2,3))
chemin.append((3,3))
chemin.append((3,4))
chemin.pop()
chemin.pop()
chemin.pop()
chemin.append((1,4))
chemin.append((1,5))
```

```
def solution(lab):
    chemin = [depart(lab)]
    case = chemin[0]
    i = case[0]
    j = case[1]
    while lab[i][j] != 3:
        lab[i][j]=4
        v = voisines(i,j,lab)
        if len(v) != 0 :
            prochaine = v.pop()
            chemin.append(prochaine)
            i = prochaine[0]
            j = prochaine[1]
        else :
            chemin.pop()
            n = len(chemin)
            i = chemin[n-1][0]
            j = chemin[n-1][1]
    return chemin
```