

2022 sujet 3

Exercice 1

```
def delta(tab):
    precedente = 0
    diff = []
    for val in tab:
        diff.append(val-precedente)
        precedente = val
    return diff
```

Exercice 2

```
class Noeud:
    def __init__(self, g, v, d):
        self.gauche = g
        self.valeur = v
        self.droit = d

    def __str__(self):
        return str(self.valeur)

    def est_une_feuille(self):
        '''Renvoie True si et seulement si le noeud est une feuille'''
        return self.gauche is None and self.droit is None

def expression_infixe(e):
    s = ""
    if e.gauche is not None:
        s = s + expression_infixe(e.gauche)
    s = s + str(e.valeur)
    if e.droit is not None:
        s = s + expression_infixe(e.droit)
    if e.gauche is None and e.droit is None:
        return s

    return '(' + s + ')'
```

e = Noeud(Noeud(Noeud(None, 3, None), '*', Noeud(Noeud(None, 8, None), '+', Noeud(None, 7, None))), '-', Noeud(Noeud(None, 2, None), '+', Noeud(None, 1, None)))