2024 sujet 4

Exercice 1

```python
def recherche(tab, n):
    occ = None
    for i in range(len(tab)):
        if tab[i] == n:
            occ = i
    return occ
```

Exercice 2

```python
def distance_carre(point1, point2):
    """ Calcule et renvoie la distance au carre entre
    deux points."""
    return (point1[0] - point2[0])**2 + (point1[1] - point2[1])**2

def point_le_plus_proche(depart, tab):
    """ Renvoie les coordonnées du premier point du tableau tab se
    trouvant à la plus courte distance du point depart."""
    min_point = tab[0]
    min_dist = distance_carre(depart, tab[0])
    for i in range(1, len(tab)):
        if distance_carre(tab[i], depart) < min_dist:
            min_point = tab[i]
            min_dist = distance_carre(tab[i], depart)
    return min_point
```