2023 sujet 45

Exercice 1

```python
notes_eval = [2, 0, 5, 9, 6, 9, 10, 5, 7, 9, 9, 5, 0, 9, 6, 5, 4]

def rangement_valeurs(notes_eval):
    effectifs_notes = [0 for i in range(11)]
    for note in notes_eval:
        effectifs_notes[note] += 1
    return effectifs_notes

def notes_triees(effectifs_notes):
    note = []
    for i in range(11):
        for j in range(effectifs_notes[i]):
            note.append(i)
    return note
```

Exercice 2

```python
def dec_to_bin (nb_dec):
    q, r = nb_dec // 2, nb_dec % 2
    if q == 0:
        return str(r)
    else:
        return dec_to_bin(q) + str(r)

def bin_to_dec(nb_bin):
    if nb_bin == '0':
        return 0
    elif nb_bin == '1':
        return 1
    else:
        if nb_bin[-1] == '0':
            bit_droit = 0
        else:
            bit_droit = 1
        return 2 * bin_to_dec(nb_bin[:-1]) + bit_droit
```