

# ds1.py

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01| ## Exercice 1
02| def est_multiple_de_5(n):
03|     return n%5==0
04|
05| ## Exercice 2
06| def f(x):
07|     if x<=0:
08|         return -x+1
09|     elif x>=1:
10|         return 2*x-1
11|     else:
12|         return x+1
13|
14| ## Exercice 3
15| def somme_nombres_impairs(n):
16|     S = 0
17|     for k in range(1,n+1,2):
18|         S += k
19|     return S
20|
21| ## Exercice 4
22| def produit(n):
23|     P = 1
24|     for k in range(1,n+1):
25|         P*=(k+1)/(k**2+1)
26|     return P
27|
28| ## Exercice 5
29| import numpy as np
30| def composee(n):
31|     if n==0:
32|         return 1
33|     else:
34|         return np.sin(composee(n-1))
35|
36| ## Exercice 6
37| def nombre_diviseurs(n):
38|     nb = 0
39|     for d in range(1,n+1):
40|         if n%d==0:
41|             nb+=1
42|     return nb
```