TP Bandits Manchots

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# Exercice 1 : Le bandit manchot

1.

class Bandit:

    def \_\_init\_\_(self):

        self.avg = random.gauss(0, 1)

2.

def play(self):

        return random.gauss(self.avg, 1)

3.

from classes import Bandit

import matplotlib.pyplot as plt

bandit1, bandit2, bandit3 = Bandit(), Bandit(), Bandit()

points1, points2, points3 = [], [], []

for i in range(1000):

    value1, value2, value3 = bandit1.play(), bandit2.play(), bandit3.play()

    points1.append(value1) # affichage matplotlib

    points2.append(value2)

    points3.append(value3)

    print(value1, value2, value3)

# Exercice 2 : Le Ban-10

1.

class BanDix:

    def \_\_init\_\_(self):

        self.tab = []

        for i in range(10):

            self.tab.append(Bandit())

2.

def \_\_init\_\_(self):

        self.tab = []

        maxAvg = 0

        maxBanditIndex = 0

        for i in range(10):

            newBandit = Bandit()

            self.tab.append(newBandit)

            if(newBandit.avg > maxAvg):

                maxAvg = newBandit.avg

                maxBanditIndex = i

        self.banditMaxAvg = maxBanditIndex

3.

def play(self, arm\_number):

        if arm\_number > 9 or arm\_number < 0:

            raise ValueError("Valeur impossible, erreur")

        else:

            return self.tab[arm\_number].play()