Лаб 5 Савчин Мирослав (8 вар)

Завд 1



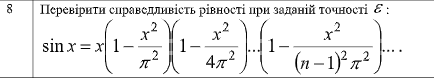
from math import sin  
n\_number = int(input("input n: "))  
x\_val = float(input("input x value(rad): "))  
total\_result = 0  
i\_c = 0  
while i\_c < n\_number:  
 total\_result += sin(x\_val)\*\*i\_c  
 i\_c += 1  
  
print("result: ", total\_result)

Завд 2



from functools import reduce  
  
amount\_of\_numbers = int(input("input amount of numbers: "))  
all\_numbers = []  
for i in range(amount\_of\_numbers):  
 all\_numbers.append(float(input("input number {} : " .format(i+1))))  
  
average\_val = reduce(lambda x, y: x + y, all\_numbers)/amount\_of\_numbers  
  
num\_counter = 0  
  
for i in range(amount\_of\_numbers):  
 if all\_numbers[i] < average\_val:  
 num\_counter += 1  
  
print("Result: ", num\_counter)

Завд 3



from math import pi, sin, fabs  
  
x\_value = float(input("input x value: "))  
E\_val = float(input("input E value: "))  
  
static\_value = (x\_value\*\*2)/(pi\*\*2)  
  
equation\_left\_part = sin(x\_value)  
equation\_right\_part = x\_value\*(1-static\_value)\*(1-static\_value/4)  
  
n\_counter = 6  
  
while True:  
 temp\_val = equation\_right\_part \* (1 - static\_value/((n\_counter - 1)\*\*2))  
 n\_counter += 1  
 if fabs(temp\_val) < E\_val:  
 break  
 equation\_right\_part = temp\_val  
  
if equation\_left\_part == equation\_right\_part:  
 print("Рівність справедлива")  
else:  
 print("Рівність несправидлива")

Завдання 4



n\_number = int(input("input n: "))  
  
i = 4  
  
x0 = 1  
x1 = 7  
x2 = 7  
x3 = 7  
res = 0  
  
while i <= n\_number:  
 res = (x3\*(1+x2)+x1)/x0  
 x0, x1, x2, x3 = x1, x2, x3, res  
 i += 1  
  
print(res)