Лаб 5 Савчин Мирослав (8 вар)

Завд 1



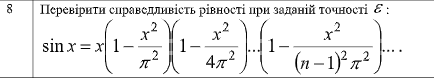
from math import sin  
n\_number = int(input("input n: "))  
x\_val = float(input("input x value(rad): "))  
total\_result = 0  
for i in range(n\_number):  
 total\_result += sin(x\_val)\*\*i  
  
print("result: ",total\_result)

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: "))  
  
equation\_left\_part = sin(x\_value)  
equation\_right\_part = x\_value\*(1-(x\_value\*\*2)/(pi\*\*2))\*(1-(x\_value\*\*2)/(4\*pi\*\*2))  
  
n\_counter = 6  
  
while True:  
 temp\_val = equation\_right\_part\*(1 - (x\_value\*\*2)/(pi\*\*2 \* (n\_counter-1)\*\*2))  
 n\_counter += 1  
 print(temp\_val)  
 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: "))  
  
def get\_sequence\_elem(i):  
 if i == 0:  
 return 1  
 elif 1 <= i <= 3:  
 return 7  
 else:  
 return (get\_sequence\_elem(i-1)\*(1+get\_sequence\_elem(i-2)) + get\_sequence\_elem(i-3))/get\_sequence\_elem(i-4)  
  
  
print("value of {0} = {1}" .format(n\_number, get\_sequence\_elem(n\_number)))