LAB 06

SUBMISSION INSTRUCTIONS

Type/write your answers on the document and submit it as a pdf file with the name JaneDoe.pdf (replace JaneDoe with your first and last name respectively).

QUESTIONS

1. (10pts): What is the Big O notation of the expressions below:
   a. $O(n + n + 9999)$ O(n)
   b. $O((n^3 + 3) * (n + 5))$ O(n^4)
   c. $O(12n + 6n^3 + 1000)$ O(n^3)
   d. $2n^3 + O(n^2)$ O(n^3)
   e. $\log_2 n + 2 + \log_5 n$ O(logn)

2. (20pts): What is the time complexity of the functions below?

	Code	Time complexity

a)	`def test(n):`
	`  for i in range(n):`
	`  for j in range(n):`
	`  print(i, j)`
		O(n^2)

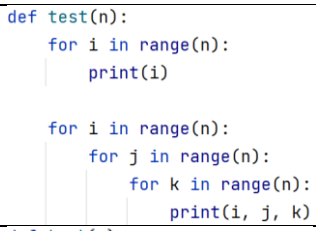
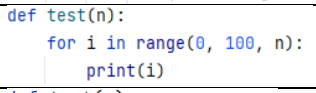
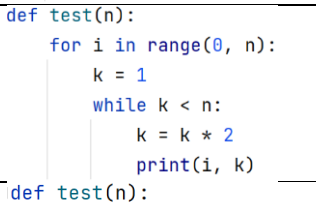
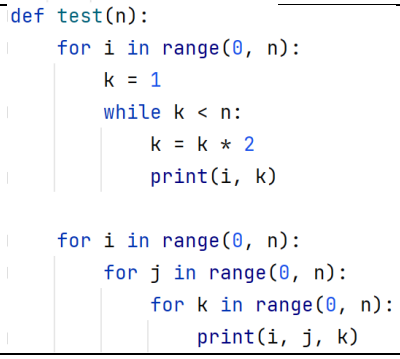
b)	`def test(n):`
	`  for i in range(n):`
	`  print(i)`
	
	`  for j in range(n):`
	`  print(j)`
		O(n)

c)	`def test(x, y):`
	`  for i in range(x):`
	`  print(i)`
	
	`  for j in range(y):`
	`  print(j)`
		O(x + y)

d)	`def test(n):`
	`  i = n`
	`  while i > 0:`
	`  i = i - 2`
	`  print(i)`
		O(n)

e)	`def test(n, m):`
	`  for i in range(m):`
	`  for j in range(m):`
	`  k = n`
	`  while k > 0:`
	`  k = k - 2`
	`  print(i, j, k)`
		O(m^2 * n)

f)	`def test(n):`
	`  ans = n + 1`
	`  return ans`
		O(1)

g)		O(n^3)
h)		O(1)
i)		O(nlogn)
j)		O(n^3)