Berkean Altungoz 20170808014 4th Grade

Question 1

miss Appoint (AZ] first, last) bong his if first > Last) find the steturn Lost +1 ATTESTED = 1 = frost return first middle = (first + Last)/2-1 If A[middle] = middle +1 return missAppoint (AI), middle+1, Last)

return miss Appoint (AI), first, middle)

Question 3 T(2)=1

T(n1= T(n14)+1, n>1 T (n 1/4) = T(n 1/42) + 1

T(n) = T(n1142)+2

k times

= t (n 114k)+k

4k = Log2)

K = Log2 + Log2 1

· k = Loglogn

T(1) = T(2) + K

T(1) = 1+ log logn

((F 6, 50) = 1 = 1 = 1 | 1 | 1 | 1 | ED F

Ollog Logn)

Berkon Altungoz 20170808014 Ulb Grade

2

Question 2

inversion count for k=2 [33, 41, 9, 12, 17,21]

is 8 -> (33,9)(33,12)(33,13)(33,21)(41,9)(41,12)(41,13)(41,13)(41,21)
Using the same method we can see inversion counts for

5 table

k=1 is 5

k=2 is 8 while n=6 so we can say the k=3 is 9

complexity of this insertion sort is k=6 is 5

[Note the complexity of this insertion sort is the k=5 is 5

Question 5

m table:

a)

0	1000	6000	6250
	0	4000	4500
		0	500
			0

1	1	3
	2	2
	4-0	3
4 (+ 0.1)	172 =	F E II
	hoh	

(5,9,23)

Question 6		7 = 2,9,44	67,93
23,93,4,67,5	2,9,44,67,1	23,1,4,67,52,9,44 privot 62 2,1,4,9,5,23,67	
Piust T	Thish	privat 600	43
	thigh 2 1 1 93	2,1,4,9,5,23,67	,64,671
a 23,1,4,9,51	2,67,144,07,113	Pivoe	
bingt Singt	low Von	> 2,1,4,9,5,23,67 > 2,1,4,9,5,23,67 Prot 05(67,64,67)	93)
	Q5(2,1161 9,5123)	Z	905/62.93
	1 4	95(44,67)	9-10/1/)

05 (2,4,1)

(1,2,4)