EXERCISE 4 Show that if P#NP there count exist en FRTAS for T- TSP

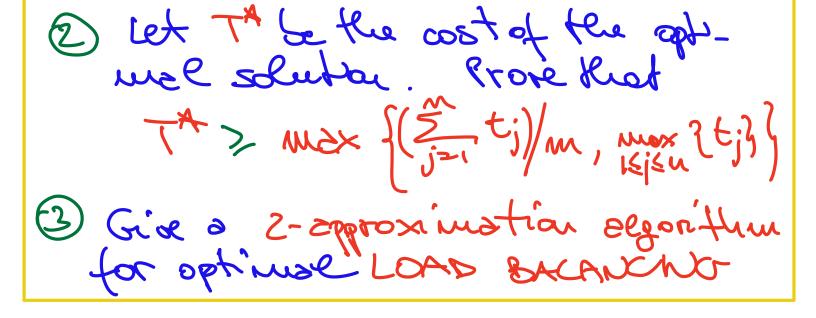
Exercise 5 Promise à greedy-based, fost, 2-epproximation algorithm for the optimisation version of Subset-Sum Recoll: Instance us (5,6) S=(x,,x2,---,xn), xist colo.g. Determine S*= ergmax { 1511: 51 = 5, 5, 5 = 4 Groedy spproach baset on a specific ordering of the elements of S:
Keep selecting elements in the order while the sum stays & t.

Consider the folloexercise 6 ving greety alforithm returning an independent set of a graph G= (V,E): GREEDY-15 (G=(V,E)) VIO W+V while $(W = \emptyset)$ & * select or be tracy 50 W * としていいから - Wa W- 204- 2 ucw: (4,0) ety Prove that: (1) V' is an 15 of G 2 Yoev: (UEV')v(JueV': fur ofeE) (V' is maximAL (\neq maxim UM) in the sense that Yorky-V': V'uzof is not independent 3) PGIS E A = MEX { deg(5): 5EVY

	I	_



EXERCISE 7 Given n jobs J={1,2,---, my we wish to run them on in identicae moduines. Jobs home curations ty to, We want to partition the jobs surry the m madines so la minime the maximum erearbor brue of a songle madine. Formælly: feasible sluba: Schedule G= {Mr, M2, ---, Mm): Hinnje 9 0 HK= 24 ---, nh Execution Due of Mi: Ti= Z ti jeMi Objective function! minimize T= max { Ti: 15 i < m} 1) Prove that the decision oession of the problem, LOAD BALANCING JI: < {ta, 62, ---, Eary, m, K) la: 3 schedule B with TEK? ENRH



D We prove PARTITION CP LOAD BAKANCING

I: <S>, SON, finite

6: 3 S,5 C S, (S,05,29) A (S,105,26)

Ses, Ses, ?

(2) $T^{*} > \max \{(\sum_{j=1}^{\infty} t_{j}) \}_{m, \max \{t_{j}\}} \}$

3 Greedy algorithm: allocate next 125 to the less loaded weathine: