Homework2

- 12112218
- Shi Jimao

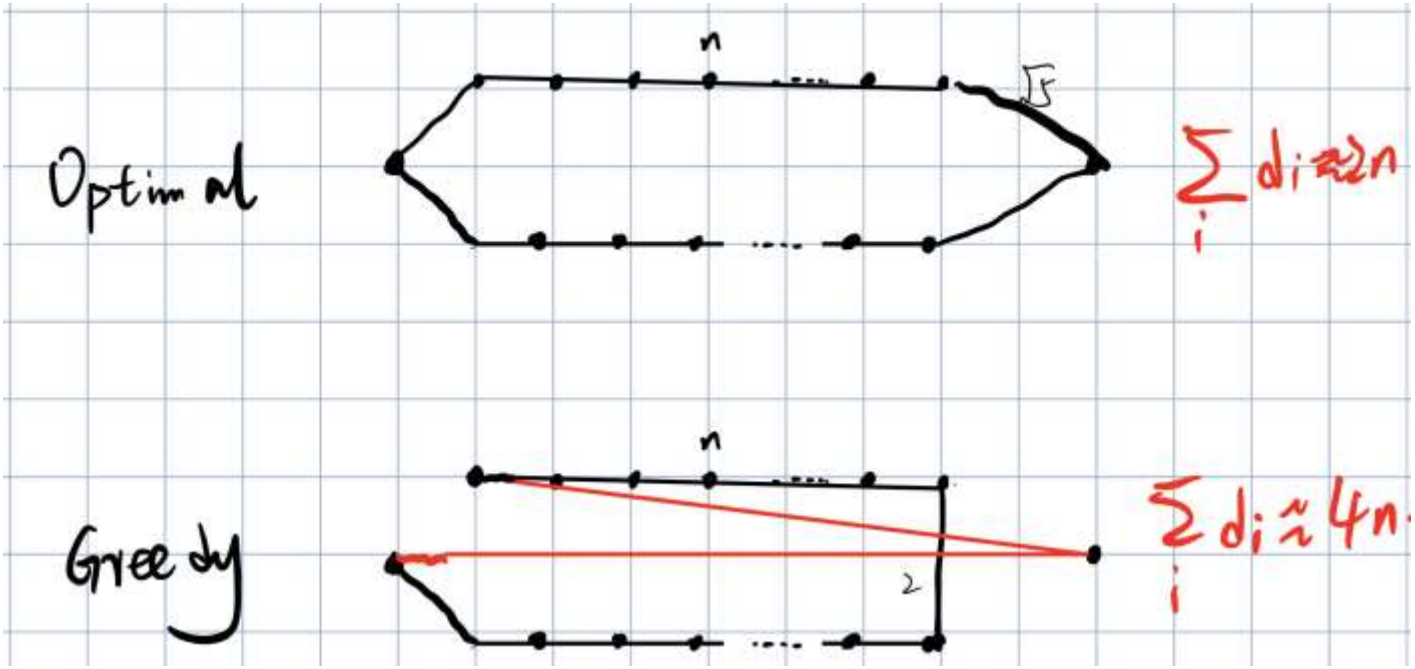
Question1

For example, the capacity of knapsack is 10, 2 items:

	Weight	Value	Ratio
A	0.00001	100	10000000
B	99.9999999999	101	1.01

Optimal solution is select B, while greedy algorithm will choose A, because the ratio of A is much bigger than B, while the result is much small than optimal solution.

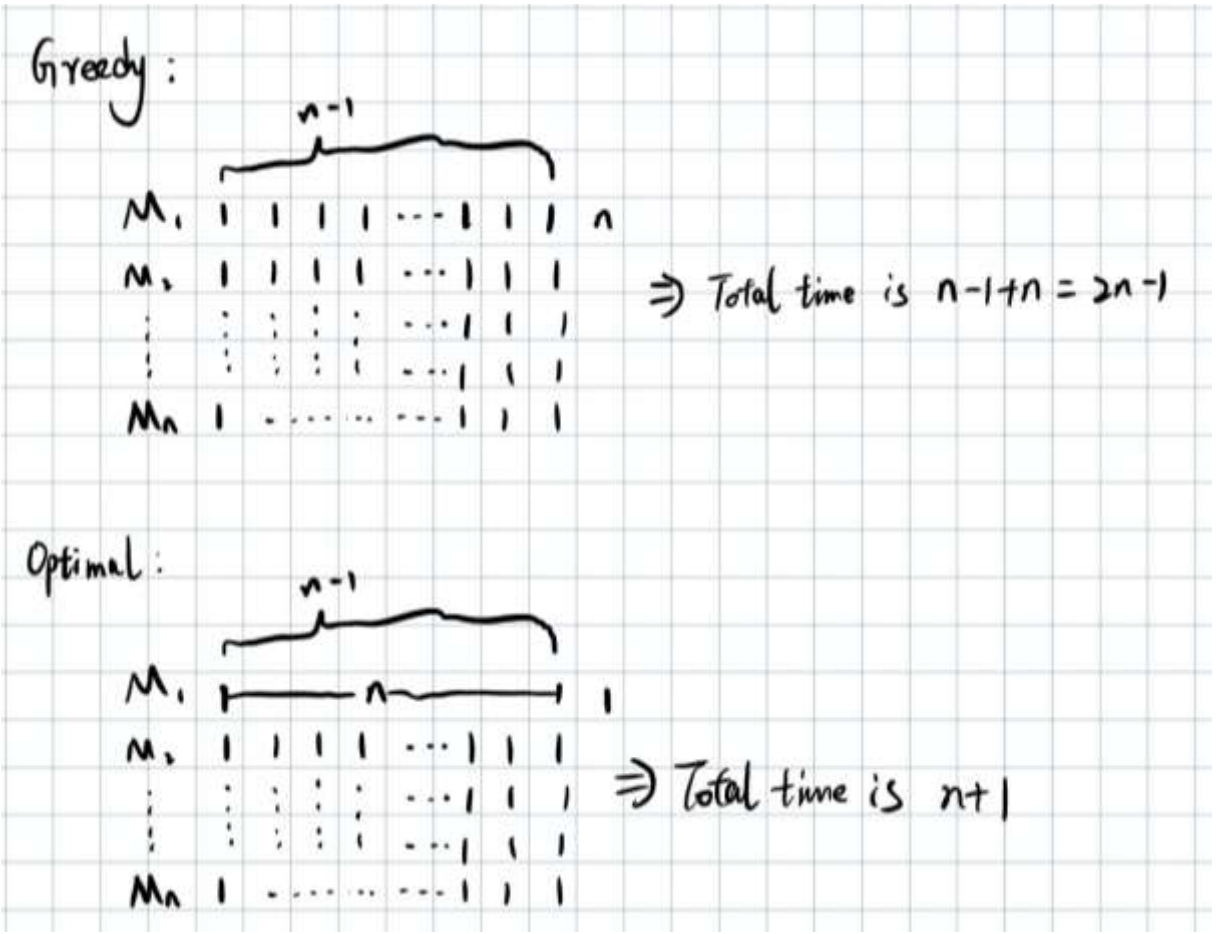
Question2



In such condition, when n is very large, the ratio between optimal solution and greedy algorithm solution is converge to 2

Question3

Suppose n machine n*(n-1) jobs, where the job is one n, and others are all 1.



The ratio between greedy and optimal is (2n-1)/(n+1)

When n is very large, the ratio will converge to 2