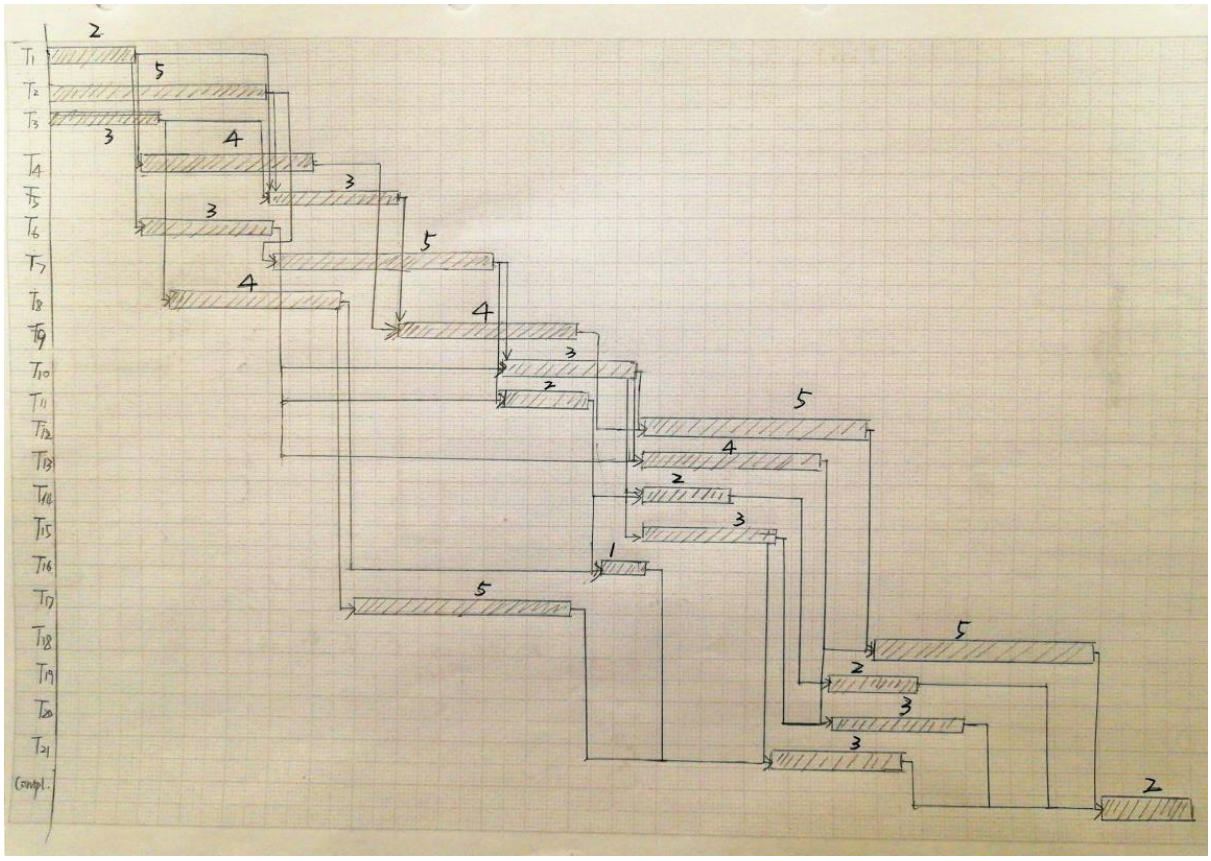
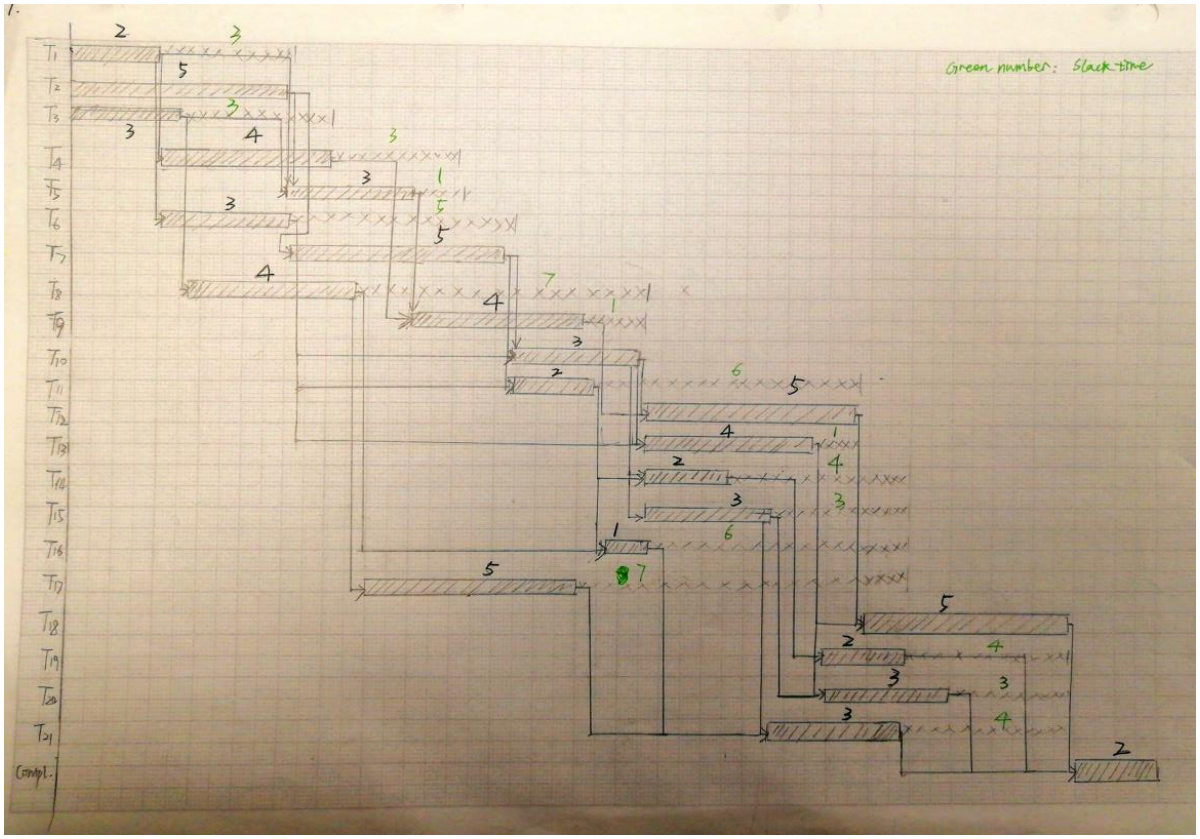
1.



2. The earliest completion day: 2+5+5+3+5+5=25 days

3.



Slack time for each activity:

T1	3
T2	0
T3	3
T4	3
T5	1
T6	5
T7	0
T8	7
T9	1
T10	0
T11	6
T12	0
T13	1
T14	4
T15	3
T16	6
T17	7
T18	0
T19	4
T20	3
T21	4
Compl.	0

4. Critical Path: Compl.---T18---T12---T10---T7---T2

Sensitivity:

High sensitivity means short Slack time, and low sensitivity means long Slack time.

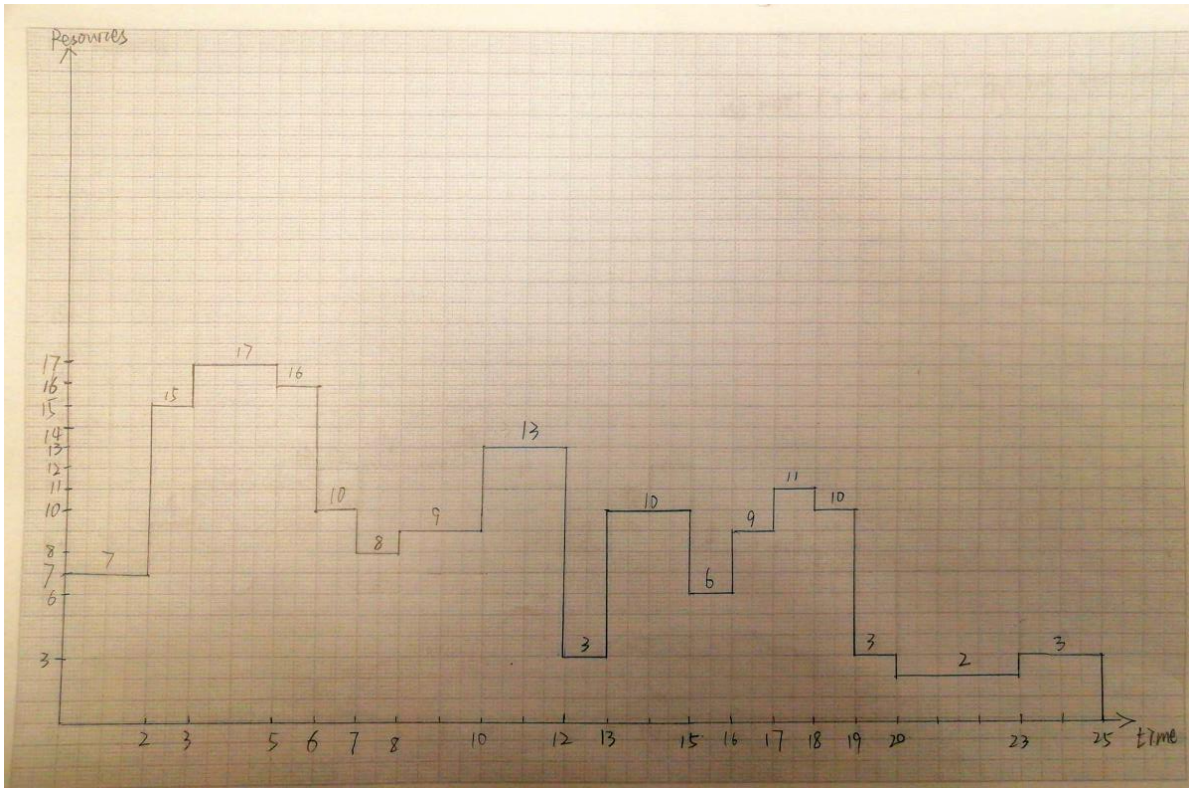
The sensitivity of Critical Path is very high, because in Critical Path, there is no slack time for each activity.

For other activity: T17 and T8 have the lowest sensitivity, because their slack time is longest. And T5, T9, T13 have the highest sensitivity (except for the activity in the Critical Path).

To be more specific, the sensitivities of these activities are (Sort from high to low):

T2,T7,T10,T12,T18,Compl. > T5,T9,T13 > T1,T3,T4,T15,T20 > T14,T19,T21 > T6 > T11,T16 > T8,T17

5.

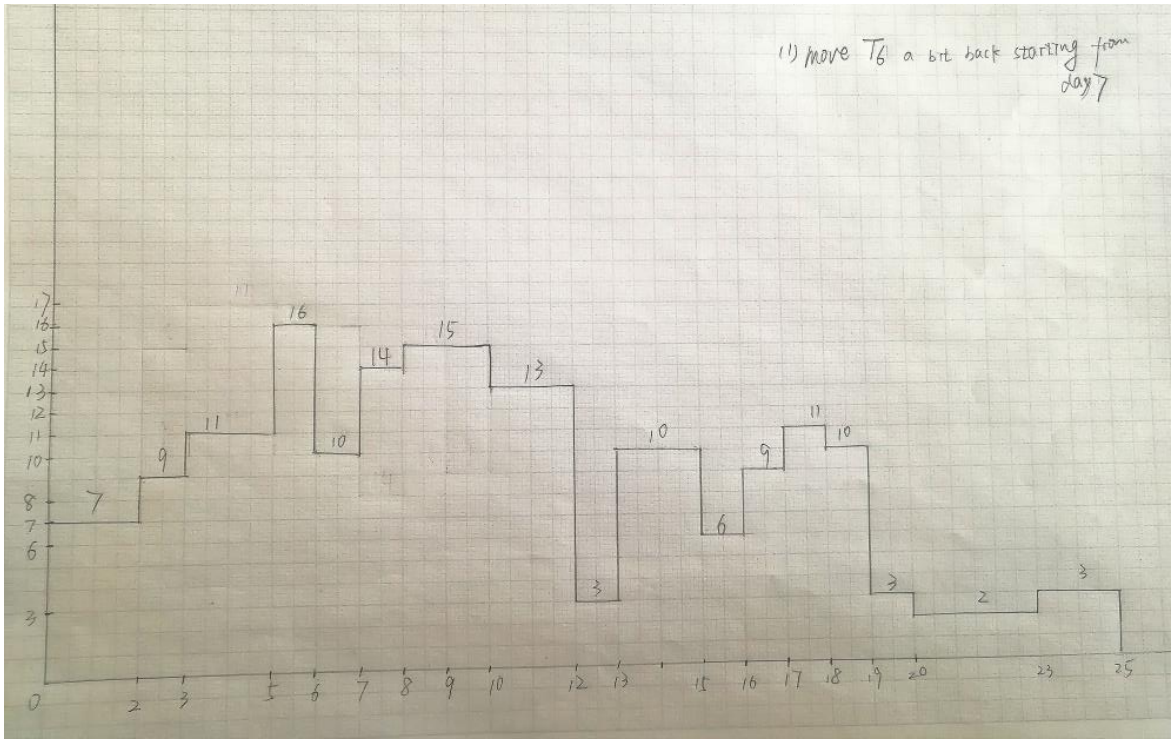


6. Minimum number of required resources to accomplish the project:

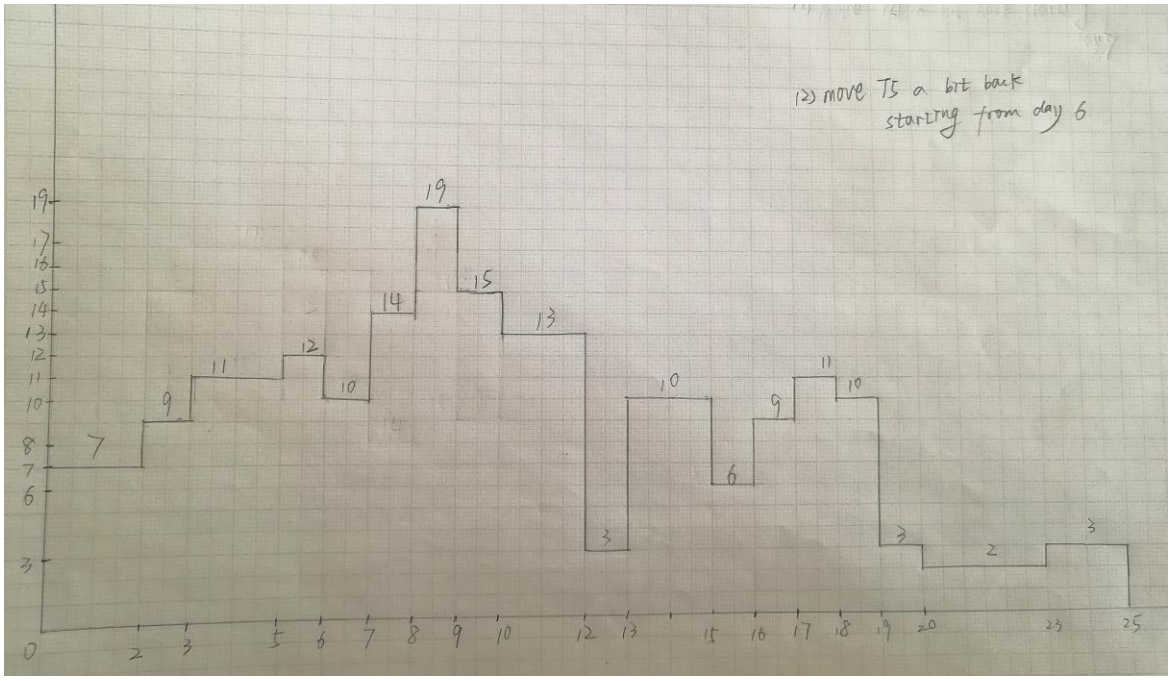
7*2+15+17*2+16+10+8+9*2+13*2+3+10*2+6+9+11+10+3+2*3+3*2=**215**

7. 8.

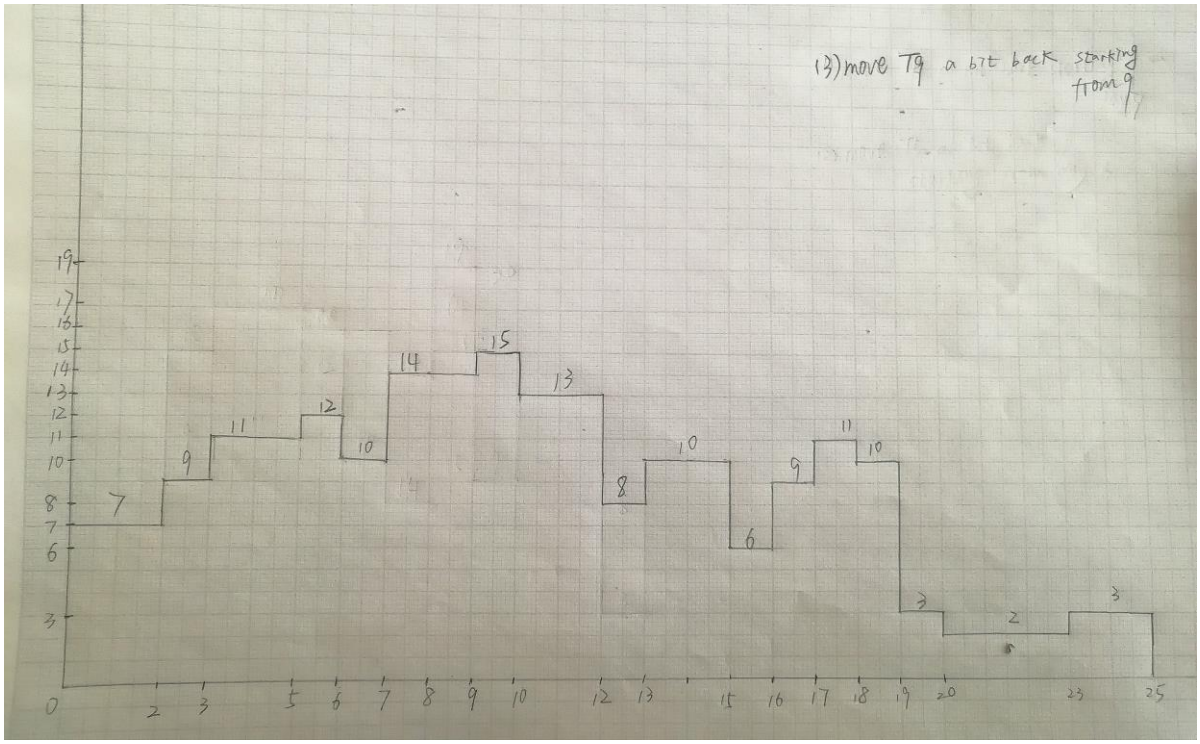
(1) move T6 a bit back, starting from day 7



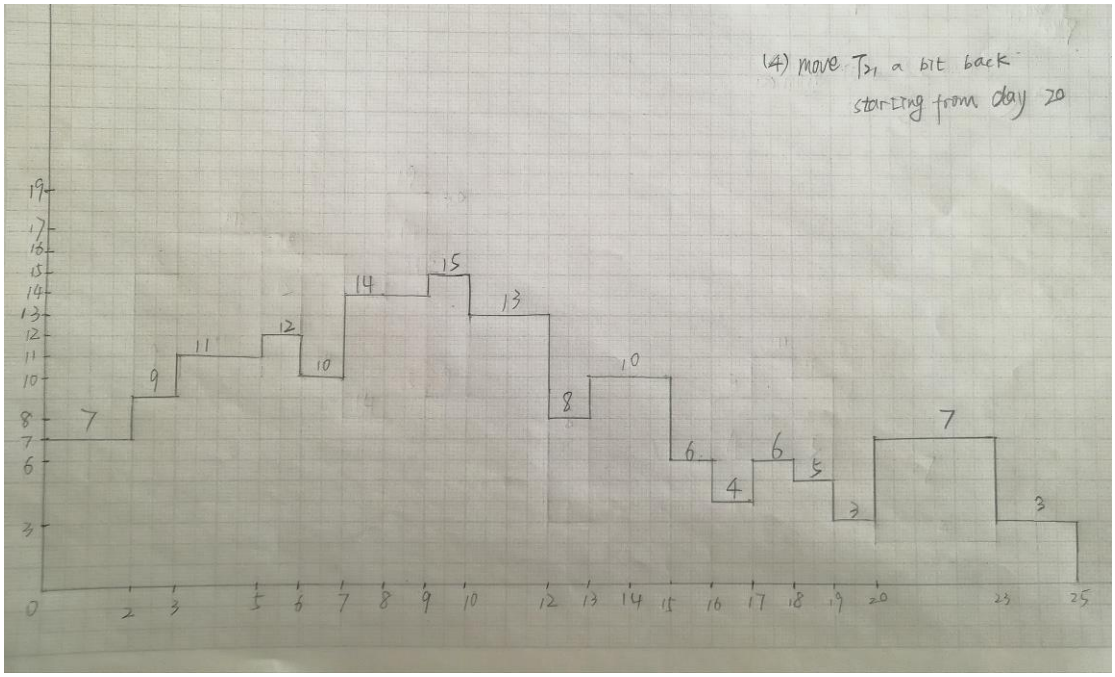
(2) move T5 a bit back, starting from day 6



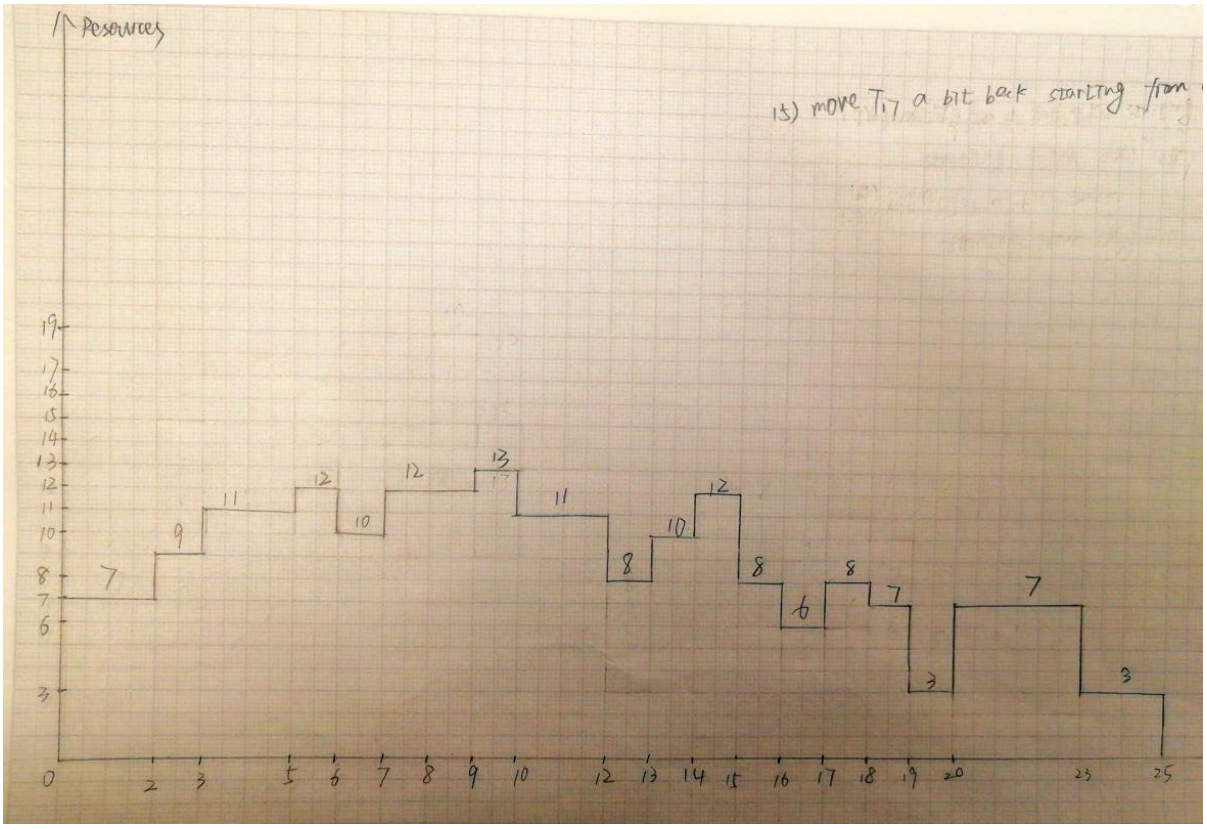
(3) move T9 a bit back, starting from day 9



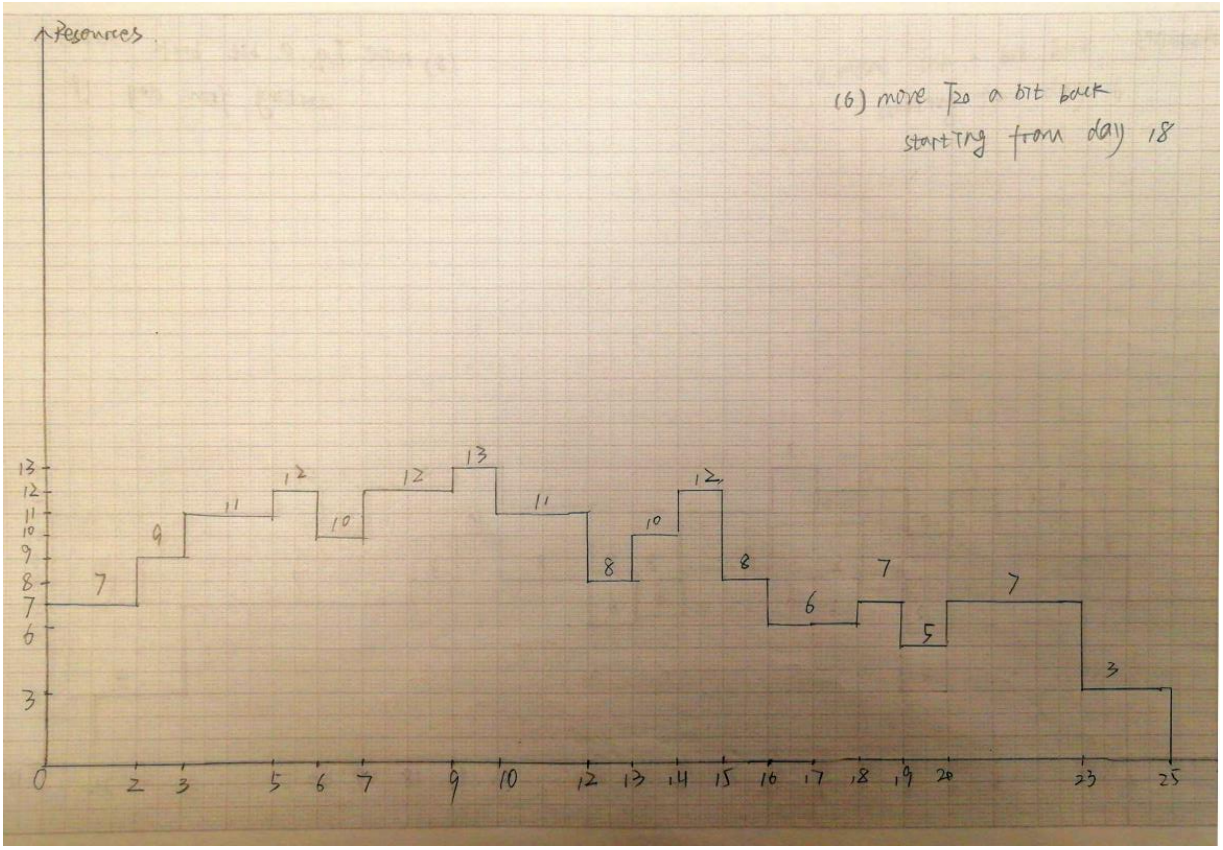
(4) move T21 a bit back, starting from day 20



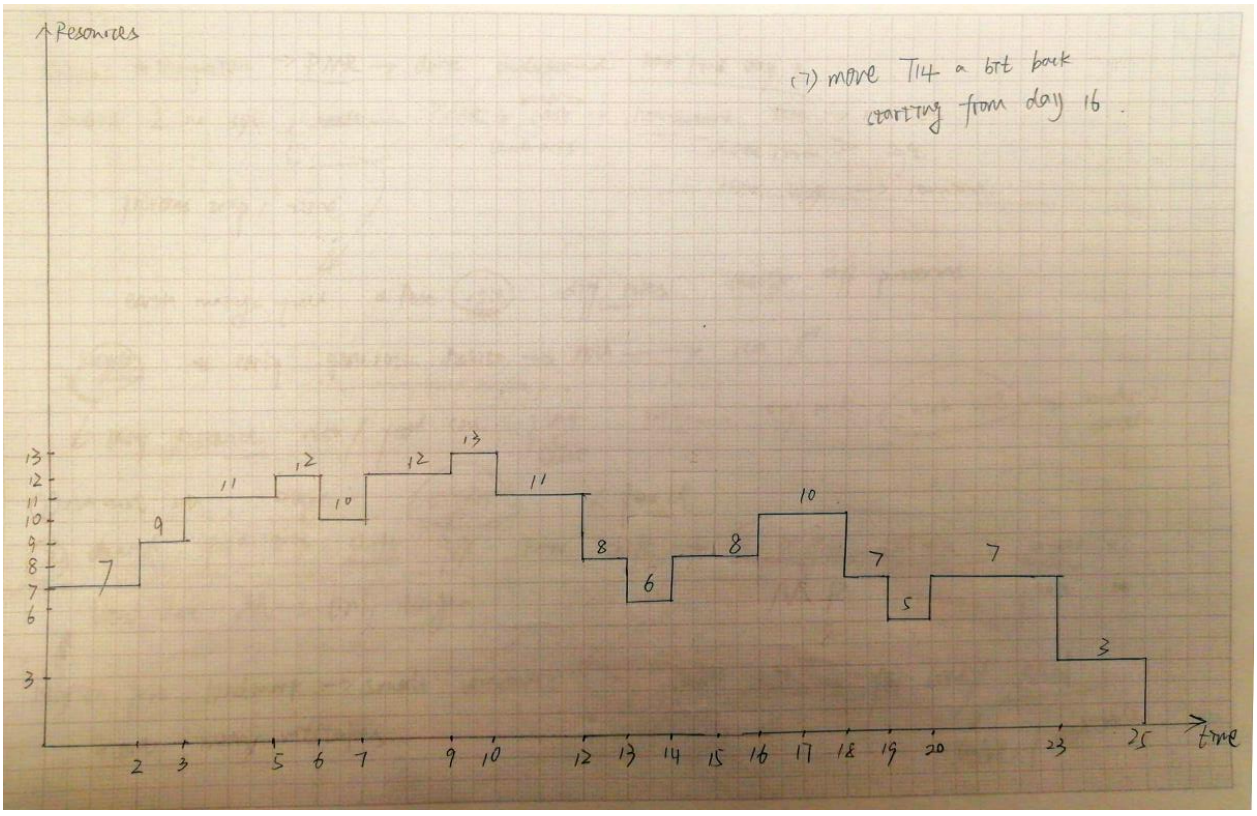
(5) move T17 a bit back, starting from day 14



(6) move T20 a bit back, starting from day 18



(7) move T14 a bit back, starting from day 16



(8) move T19 a bit back starting from day 18

Optimal resource loading chart: