Data Structure Programming Project #4

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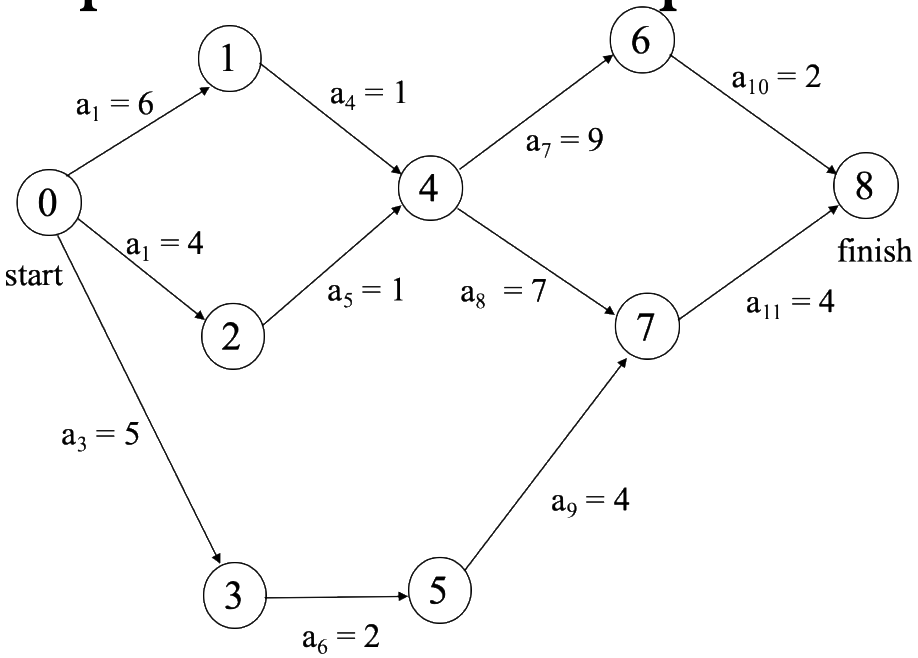
Activity-on-Edge (AOE) Networks

- Given:
- An AOE network
- Vertices represent events
- Edge represent tasks
- Numbers represent time required to perform the task



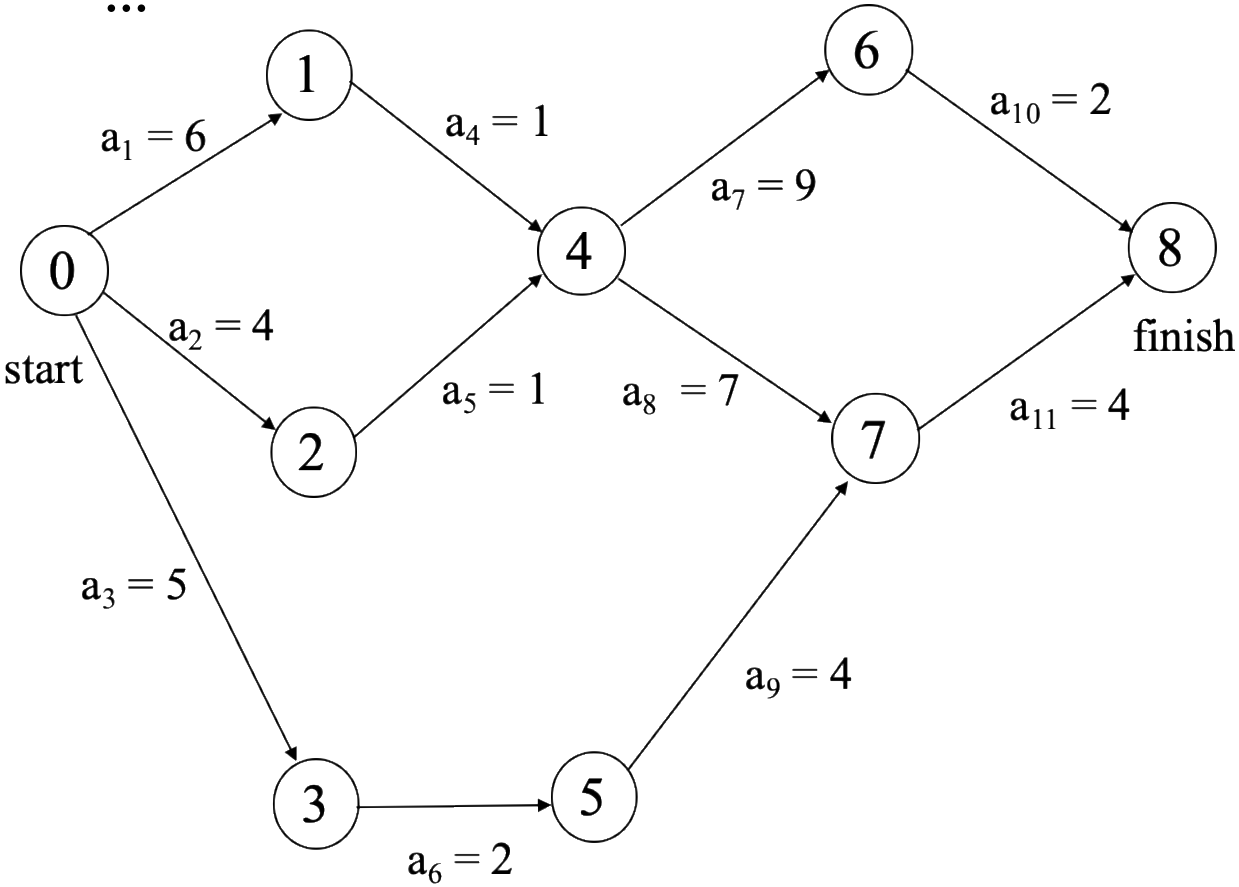
Activity-on-Edge (AOE) Networks

- Goal:
- If the project is feasible
- Find the early and late times for each task
- Find the degree of criticality for each task
- Otherwise,
- Indicate the infeasibility
- Print "No solution"

Activity	Early e	Late l	Slack $l - e$	Critical $l - e = 0$
a_1	0	0	0	Yes
a_2	0	2	2	No
a_3	0	3	3	No
a_4	6	6	0	Yes
a_5	4	6	2	No
a_6	5	8	3	No
a_7	7	7	0	Yes
a_8	7	7	0	Yes
a_9	7	10	3	No
a_{10}	16	16	0	Yes
a_{11}	14	14	0	Yes

Input Sample 1: input.txt

```
11          #tasks
0  1  6     Event1 Event2 Number
0  2  4     ...
0  3  5
1  4  1
2  4  1
3  5  2
4  6  9
4  7  7
5  7  4
6  8  2
7  8  4
```



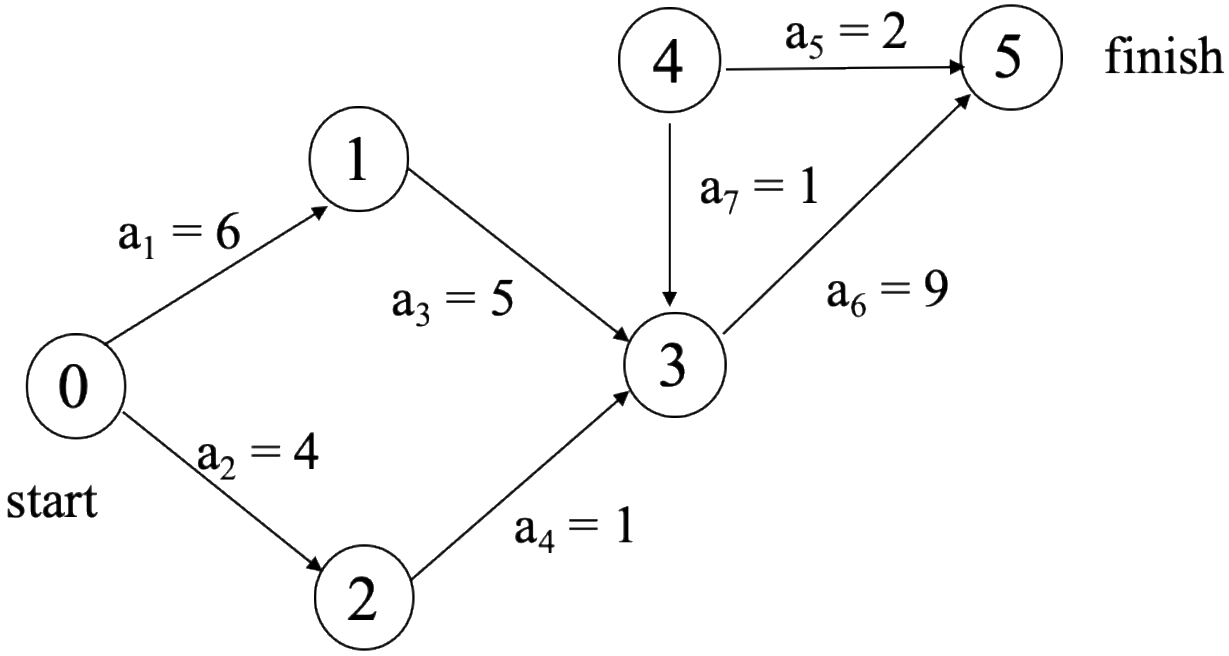
Output Sample 1: output.txt

```
11
0  0  0  y
0  2  2  n
0  3  3  n
6  6  0  y
4  6  2  n
5  8  3  n
7  7  0  y
7  7  0  y
7  10  3  n
16  16  0  y
14  14  0  y
```

Activity	Early e	Late l	Slack $l - e$	Critical $l - e = 0$
a_1	0	0	0	Yes
a_2	0	2	2	No
a_3	0	3	3	No
a_4	6	6	0	Yes
a_5	4	6	2	No
a_6	5	8	3	No
a_7	7	7	0	Yes
a_8	7	7	0	Yes
a_9	7	10	3	No
a_{10}	16	16	0	Yes
a_{11}	14	14	0	Yes

Input Sample 2: input.txt

```
7              #tasks
0  1  6        Event1 Event2 Number
0  2  4        …
1  3  5
2  3  1
4  5  2
5  3  9
4  3  1
```



Output Sample 2: output.txt

```
No solution
```

Note

- Deadline:
  12/13 Thu (有問題可以再調整)

- E-course

- **C Source code**