Practice 4

YAO ZHAO

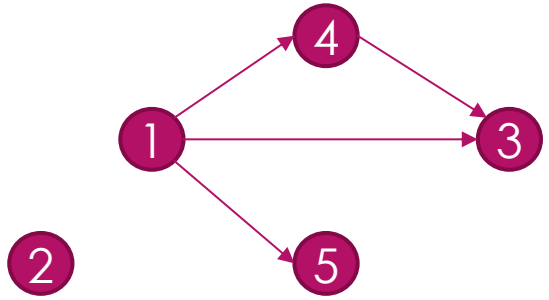
Question 1

- Lanran has tasks to do, while the tasks are not independent. That means to do some task Lanran needs to finish other task first. Now given the dependency of the tasks, Lanran wants you to tell him one possible order to finish all these tasks. To make the output answer unique, the answer should have the **least lexicographical order** among all possible answers. If there is no possible answer, please output 'impossible' (without quotes).

Sample input:

```
5 4
1 4
1 3
4 3
1 5
```

Graph:



Sample output:

1 2 4 3 5

Question 2

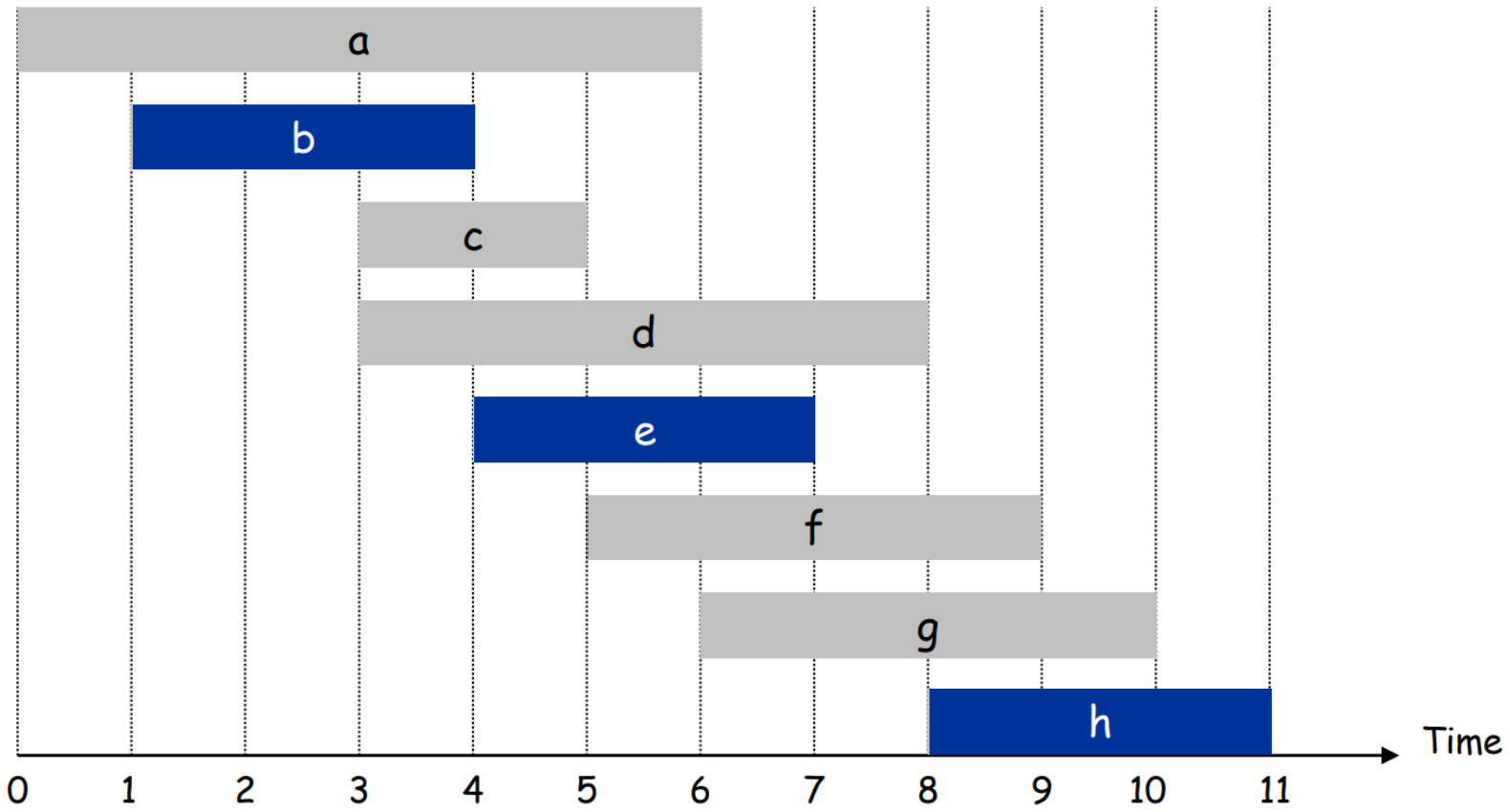
Interval Scheduling

Interval scheduling.

- Job j starts at s_j and finishes at f_j.
- Two jobs compatible if they don't overlap.
- Goal: find maximum subset of mutually compatible jobs.

Sample input:

a 0 6
b 1 4
c 3 5
d 3 8
e 4 7
f 5 9
g 6 10
h 8 11



Sample output:
b e h

Please implement the 2 questions.

The practice will be checked in this lab class or the next lab class(before **Mar.30**) by teachers or SAs.

This practice will contribute **1 mark** to your overall grade. Late submissions within 2 weeks after the deadline (before Apr.13)will incur a 20% penalty, meaning that you can only get 80% of the score.