107 Data Structure Homework 2

Path Selection Problem

- Input : read file (input.txt)
  - Send good with weight x from city A to city K
  - Give several paths and throughput in each city (city name no more than 10 chars)
  - 0 : Have the next data, -1 : End
  - Output order in ASCII (answer may be not unique or no answer)

- Problem
  - Print the map (30%)
  - Print all the paths from city A to city K (30%)
  - Print all the best (throughput) paths from city A to city B (30%)
  - Print all the paths has circle (30%)

Input range

- city name : no more than 10 chars

- throughput in each city (>=0) : positive integer, not exceeding the integer type

- cargo weight (>0) : positive integer, not exceeding the integer type

----

城市到城市之間的路徑，如果該路徑沒重複經過同一城市，才能算第二題或是第三題的答案，例如：城市A到城市H

- A,B,C,K,W,E,C,D,H (X)

- A,B,C,F,E,K,I,O,U,H (O)

Path Selection Problem

From city A to city K

The weight of the goods is 7 units

From city A through city C and city E to city H

The number behind the city name represents throughput

From city A to city B

The weight of the goods is 4 units

0 : Have the next data

-1 : End

A, K, 7

A, 7->C, 2->E, 5->H, 7

A, 7->J, 10->C, 2->F, 6

I, 4->E, 5->K, 12->D, 6

J, 10->K, 12->G, 4->L, 3

D, 6->G, 4->H, 7->L, 3->I, 4

B, 15->E, 5

0

A, B, 4

A, 7->C, 2->E, 5->H, 7

A, 7->J, 10->C, 2->F, 6

I, 4->E, 5->K, 12->D, 6

J, 10->K, 12->G, 4->L, 3

-1

Path Selection Problem
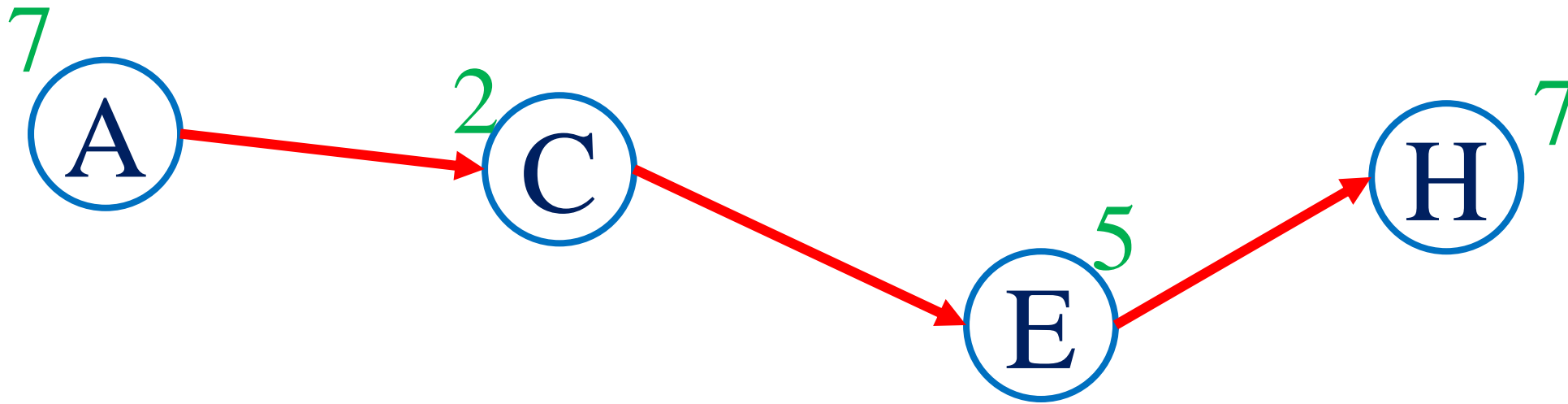
A,7->C,2->E,5->H,7

Path Selection Problem
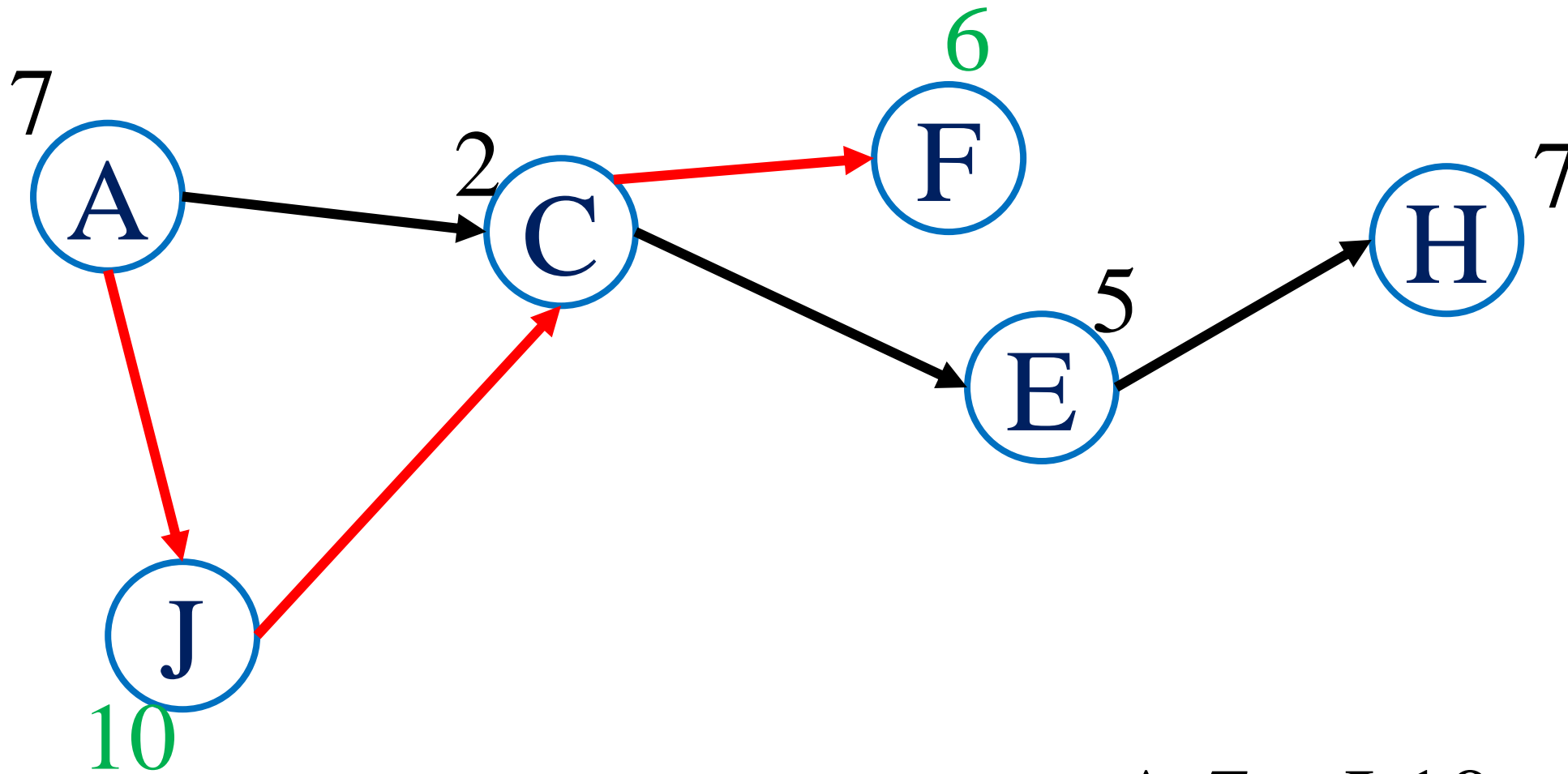
A,7->J,10->C,2->F,6

Path Selection Problem

I,4->E,5->K,12->D,6

Path Selection Problem

J,10->K,12->G,4->L,3

Path Selection Problem

A,K,7

I 4

6
F

7
A

2
C

5
E

7
H

J

D

6

10

K

4
G

12

L 3
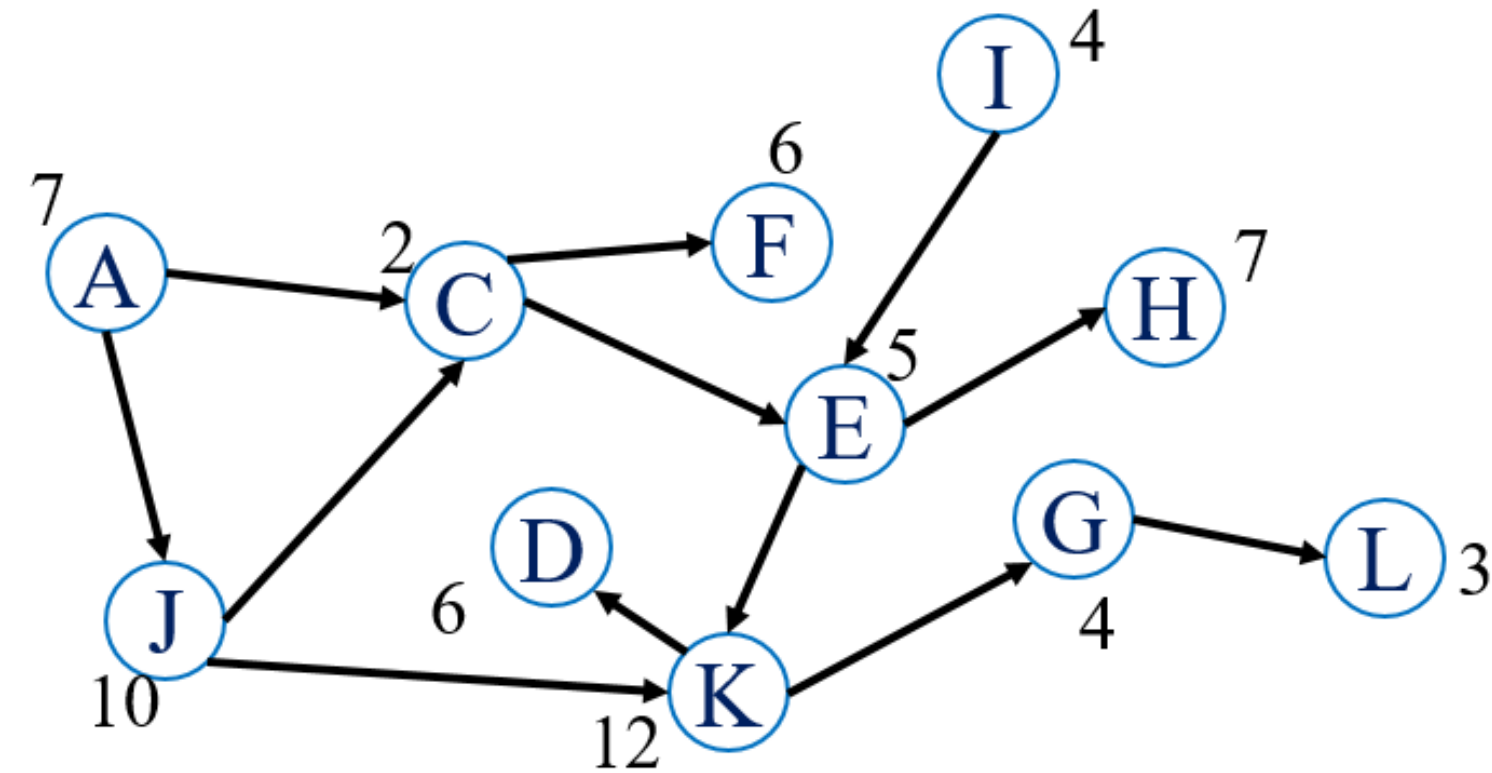
Ans : A,J,K

Path Selection Problem

A,I,4
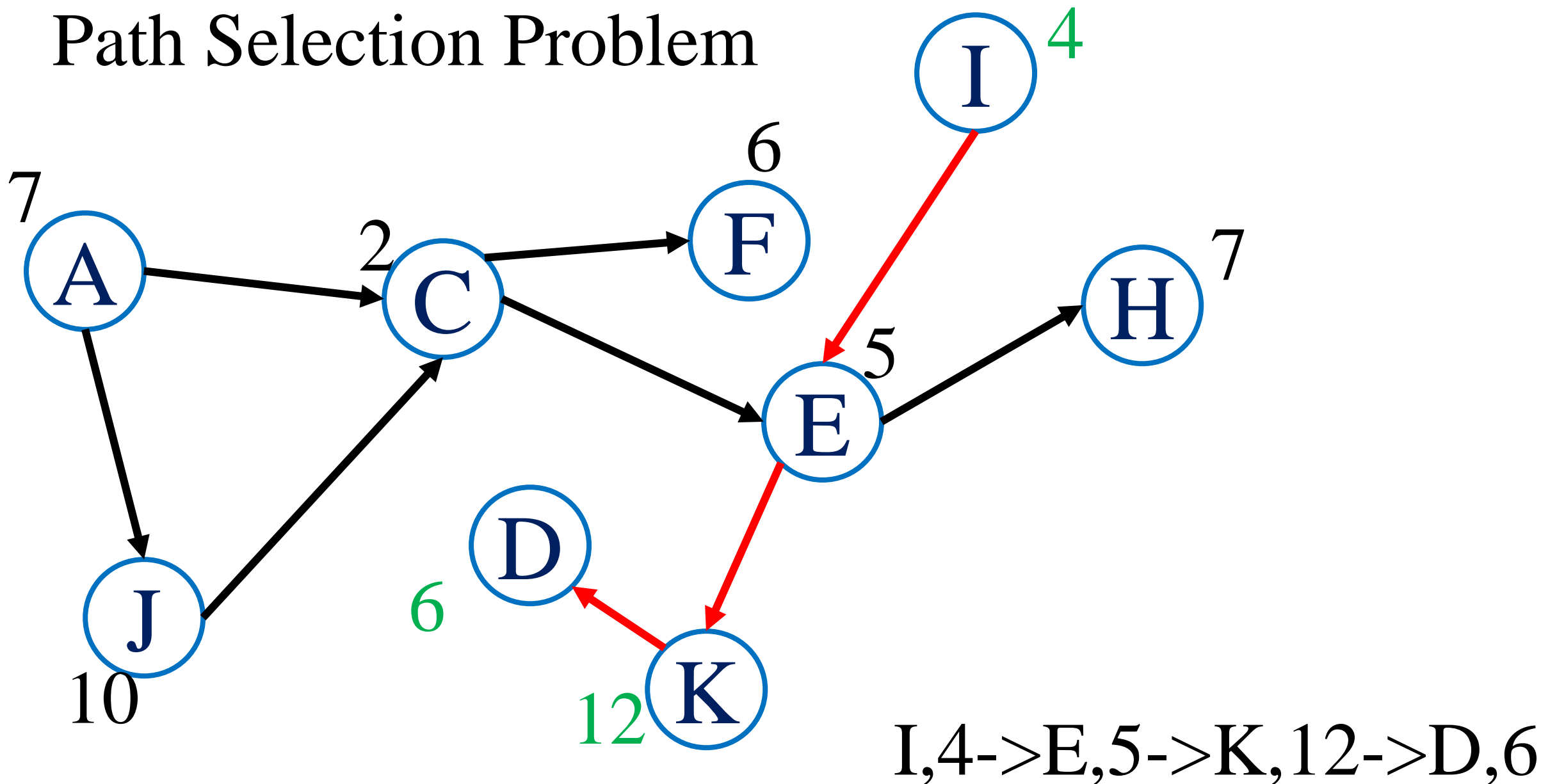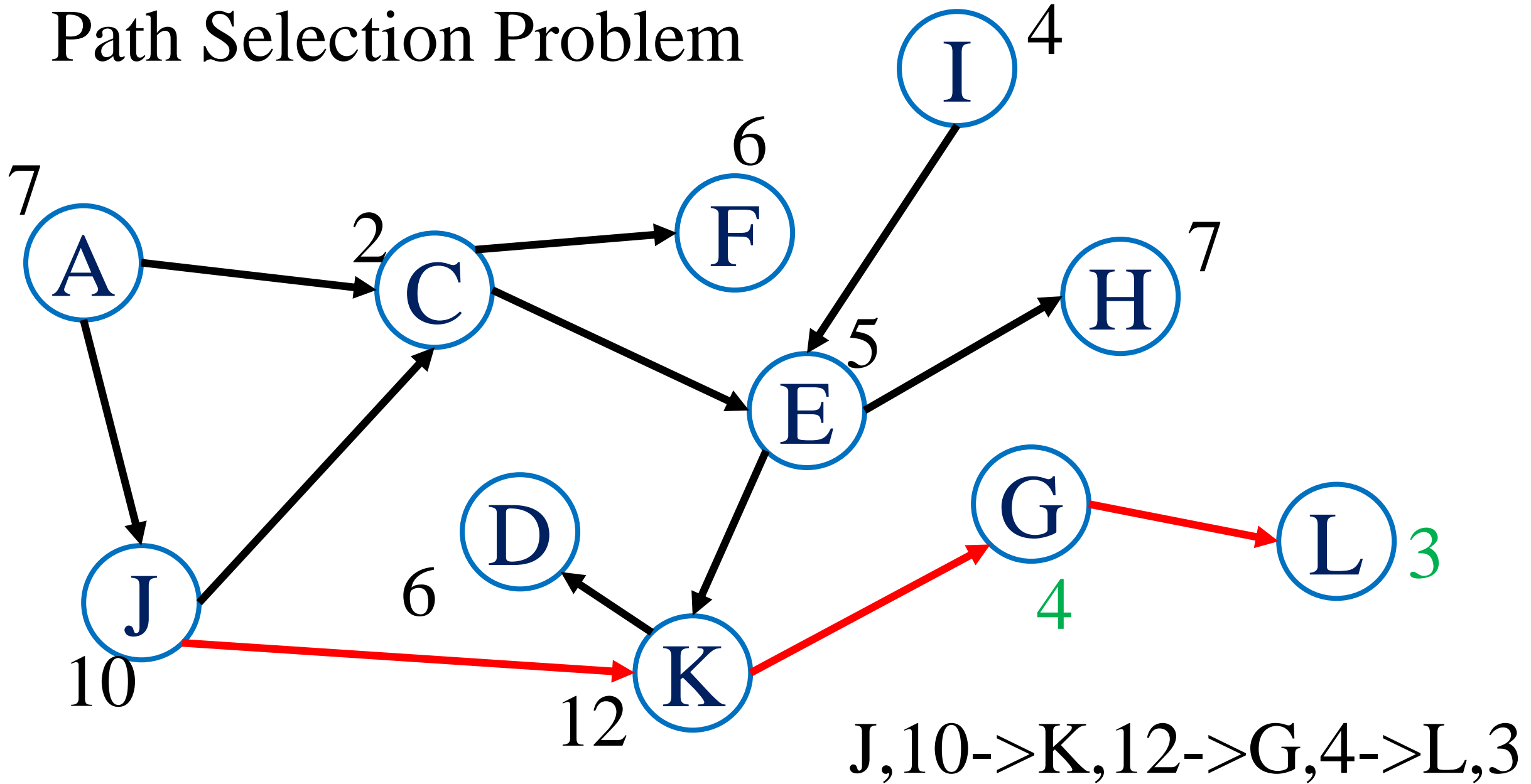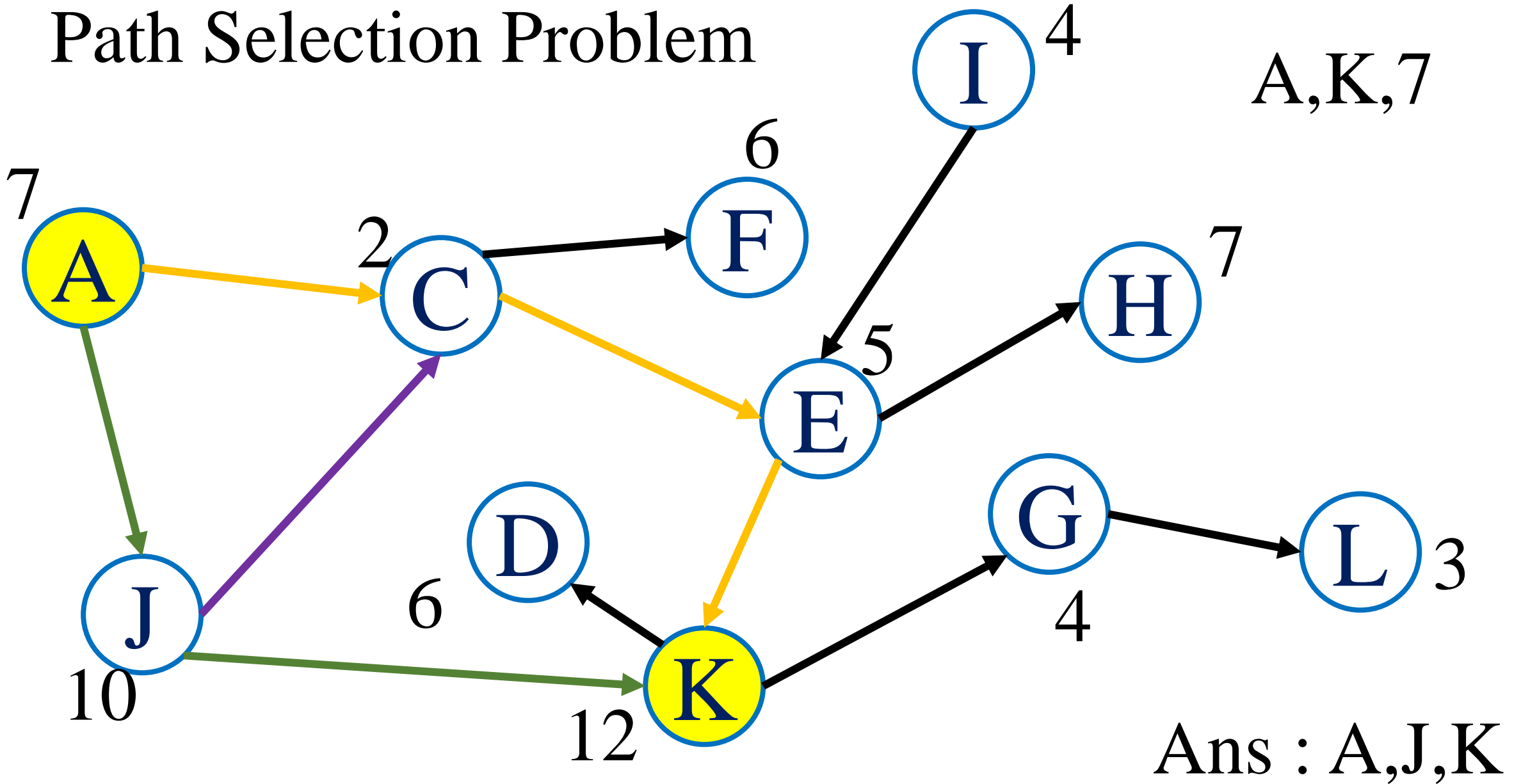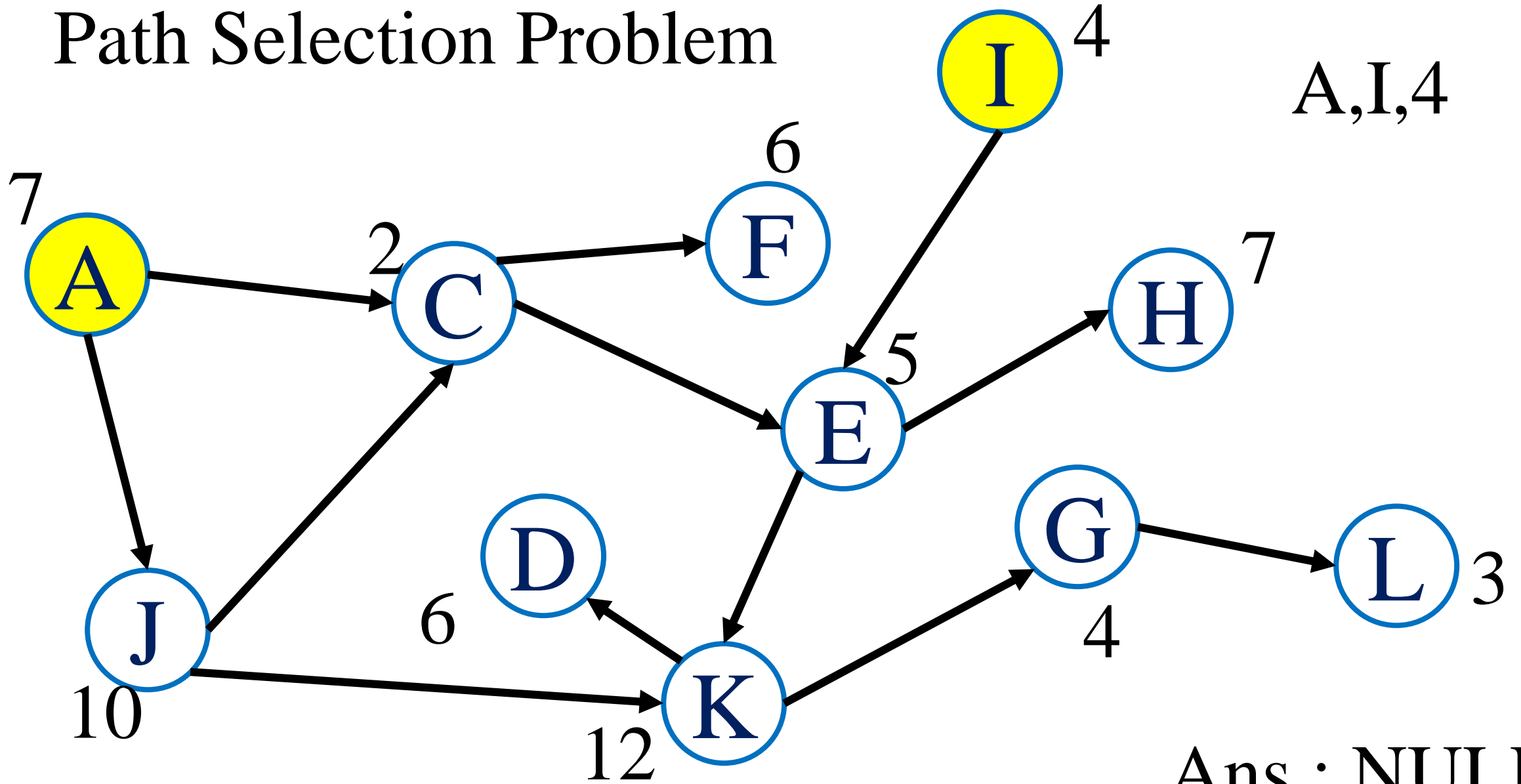
Ans : NULL

Path Selection Problem


```
Map :
A,C
A,J
C,E
C,F
E,H
E,K
G,L
I,E
J,C
J,K
K,D
K,G

All the paths from city A to city K :
A,C,E,K
A,J,C,E,K
A,J,K

All best paths from city A to city K :
A,J,K

All the paths has circle :
NULL
```

Path Selection Problem

read file (input.txt)

```c
FILE *fp;
char ch;
if((fp=fopen("input.txt","r"))==NULL){
    printf("open file error!!\n");
}
```

Path Selection Problem

- Send code

- Only accepted C

- No score if you don't use linked list

- Homework upload to **iLearning** platform

- Deadline : 2018.11.05(一) 23:59

- 檔名 : main.c

- 測資不公開，截止日期前可以一直重新上傳

- 作業Deadline後才會改，分數直接上**iLearning**看

- 抄襲嚴懲 , 請打上註解

- 交不合以上規定的作業，將直接不計分(讀檔和編譯問題除外)