

# Introduction

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- 1 Examples
  - Finance
  - Elections
  - Fair Division
  - Traveling

- 2 Assignment

# Outline

## 1 Examples

- Finance
- Elections
- Fair Division
- Traveling

## 2 Assignment

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- Finance
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## 2 Assignment

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- You would like to retire at age 65 with a monthly income of \$8000.
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- You expect inflation to average 2%.
- What should your monthly contribution be in order to realize your goal?

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2

## Assignment

## Example (Elections)

- There are four candidates, Alan, Bob, Cathy, and Donna, running for the office of president of the Debate Club.
- Call them A, B, C, and D.
- There are 37 Debate Club members.
- Each member ranks the four candidates in order of preference.

# Elections

## Example (Elections)

	14	4	11	8
1st	A	B	C	D
2nd	B	D	B	C
3rd	C	C	D	B
4th	D	A	A	A

# Elections

## Example (Elections)

	14	4	11	8
1st	A	B	C	D
2nd	B	D	B	C
3rd	C	C	D	B
4th	D	A	A	A

Who should be the winner?

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## 1 Examples

- Finance
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- **Fair Division**
- Traveling

## 2 Assignment



## Example (Fair Division)

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- What if they range from a cherry pie to a cookie?
- What if they range from an iPhone to a pencil?

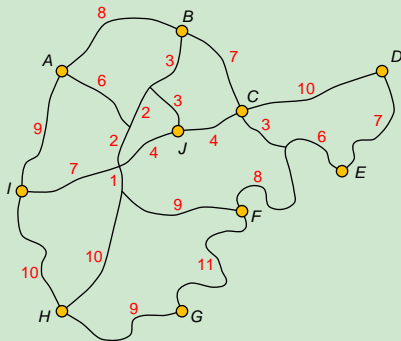
# Outline

## 1 Examples

- Finance
- Elections
- Fair Division
- Traveling

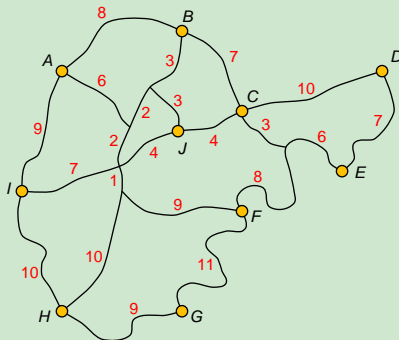
## 2 Assignment

## Example



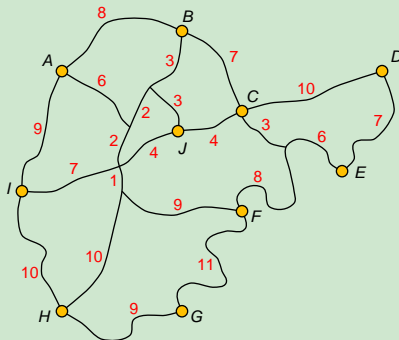
Here is a highway map showing locations *A* through *J*.

## Example



What is the shortest route from *A* to *E*?

## Example



What is the shortest route that visits every location?

# Outline

1

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## Assignment



# Assignment

## Assignment

- None