CN208
Introductory Computer Programming

Week 13:- Problem Solving

By

Dr. Piya Techateerawat

Problem Solving

- **Solving Simple Problems**
- Assembling Solution Steps
- Summary of Operations
- Solving Larger Problems

Solving Simple Problems

- Define the input data
- Define the output data
- Discover the underlying equations to solve the problem
- Implement the solution
- Test the results
- Repair the code if required

Problem Solving

- Solving Simple Problems
- **Assembling Solution Steps**
- Summary of Operations
- Solving Larger Problems

Assembling Solution Steps

- Complex problem frequently comes in the form of data collections.
- Need to identify the details operations and steps which are involved.
- Design steps should go along with data input and output.

Problem Solving

- Solving Simple Problems
- Assembling Solution Steps
- **Summary of Operations**
- Solving Larger Problems

Summary of Operations

- Insert
  - Add item to collection
- Traverse
  - Touch each items in the collection
- Build
  - Create a collection from data source
- Map
  - Change the content in the collection

Summary of Operations

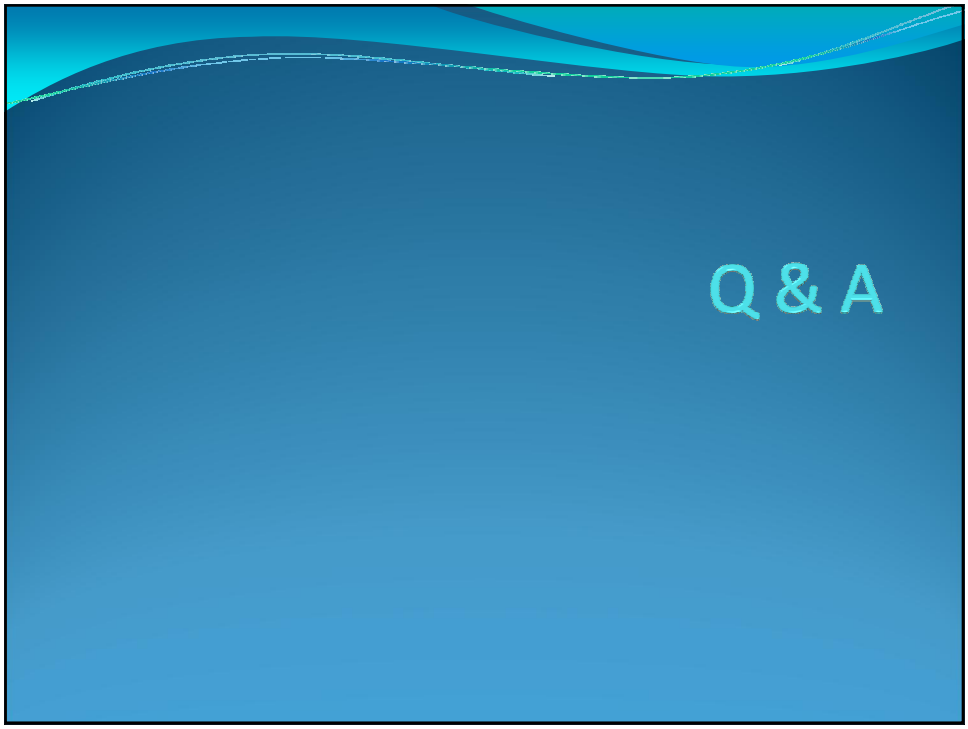
- Filter
  - Removes some items from the collection
- Folder
  - Touches the entire collection and summarizing the contents
- Search
  - Traverses the collection until item matches the given criteria
- Sort
  - Puts the collection in order by specific criteria

Problem Solving

- Solving Simple Problems
- Assembling Solution Steps
- Summary of Operations
- **Solving Larger Problems**

Solving Larger Problems

- Evaluate the given problem to a small problem
- Each small problem has each own step (or flow chart)
- Once, each problem is solved, gather it and check with completed solution
- Try to improve the effectiveness if possible.


Q & A