CS 160
CS Orientation
More Programming Structure
Chap. 7

Flowchart Diagram of *While/WhileEnd*

Decision Equivalent to *While/WhileEnd*
Repeat/Until Algorithm Format

```
Repeat
    Instruction
    Instruction
    ...
Until <Condition(s)>
```

Flowchart Diagram of Repeat/Until

[Flowchart diagram of Repeat/Until loop]

Nested Loops

```
1. A
   CodeLoop = 0
   while CodeLoop < Limit
       Instruction
       CodeLoop = CodeLoop + 1
   if CodeLoop > Limit
       CodeLoop = 0

2. A
   MainLoop = 0
   while MainLoop < Limit
       Instruction
       MainLoop = MainLoop + 1
   if MainLoop > Limit
       MainLoop = 0
```

[Flowchart diagrams for nested loops]
Problem 1
• Mr. Brown has given a test to his class. He would like to have the average score for the class, as well as the highest and lowest test scores.

• Develop a flowchart/pseudocode solution...

Problem 2
• Write a solution to determine if a number is prime (it can only be divided by one and itself).

• Develop a flowchart/pseudocode solution...

Problem 3
• Jerry would like to know the balance in his checkbook given the beginning balance, the deposits, the check amounts, and the bank fees. Print out the ending balance.

• Develop a flowchart/pseudocode solution...
What’s wrong with this?

• Find the average score for five people.
  counter=1
  while counter < 5
    enter score
    total=total+score
    counter=counter+1
  whileEnd

What’s wrong with this?

• Find the average score for five people.
  counter=1
  repeat
    enter score
    total=total+score
    counter=counter+1
  until x < 5

What’s wrong with this?

• Find the sum of number from 10 to 100.
  sum = 0.0
  Loop: counter =10 to 100 step 15
    sum=counter
  Loop-end: counter
Quiz #7

- Get into groups of 4 to 5.
- What did you think about the Bioinformatics talk?
- How did this change your perspective on CS?