Class 09

Nested Loops
Model for nested loops

SET UP OUTER LOOP {
    OUTER LOOP ACTIONS
    SET UP INNER LOOP {
        INNER LOOP ACTIONS
    }
    MORE OUTER LOOP ACTIONS
}
Nested loops - comments

- Usually the nested loops are for loops, but they could be while loops
- OUTER LOOP ACTIONS will repeat from time to time, whereas INNER LOOP ACTIONS will repeat all the time
- A clue that suggests using a nested loop is that there are two categories of action frequency
Example 1 (from last class)

- Goal: Print 5x5 grid of *s

*****
*****
*****
*****
*****
Example 2

• Goal: Print a triangle of *s

*  
**  
***  
****  
*****  
******
Example 3

• Goal: Print a triangle of *s

    *
    **
    ***
    ****
    *****
    *****
Example 4

- Goal: Print a triangle of *s

*****
****
***
**
*
Example 5

- Goal: Print a triangle of *s

*  
**  
***  
****  
*****  
******  
****  
***  
**  
*
Example 6

- Goal: Print an X of *s

```
  *  *
 *  *
 *  *
  *  *
 *  *
 *  *
  *  *
```