More While Loop Examples

CS303E: Elements of Computers
and Programming
June 18, 2012

Quote of the Day

Tell me and I forget. Show me and I
    remember. Involve me and I
    understand.
        - Anonymous Chinese Proverb

iClicker Question: Nested If Statements

What is the expected output?

```
if(1<10 and 6<7):
    if(8>=10 or -1>0):      A. if if
        print "if if"        B. if else
    else                     C. elif
        print "if else"     D. None of
elif(4==4 and 9>=6):            the above
    print "elif"
```

Exercises

■ Write a program that calculates the product
    of the first n odd numbers (beginning at 0).

Group Exercise

- A perfect number is a number that is the sum of its divisors. The divisors of 6 are 1, 2, and 3 and they add up to 6 (1+2+3=6). Another perfect number is 28. The divisors of 28 are 1, 2, 4, 7, 14 and they add up to 28. There are not many perfect numbers. Write a program that takes as input an integer number and determines if it is perfect or not.

Exercises

- Write a program that determines how long it takes an investment to double at a given interest rate. The input is the amount of the investment and an annualized interest rate. The output is the number of years it takes an investment to double.

iClicker Question: While Loops

When would you use a `while` loop?

A. When you know exactly how many times the loop should execute
B. When the loop will execute an indefinite number of times