# Total, Average, Min and Max of a series of numeric values

University of Mount Union

CSC 120

Lecture 24

# Write Java code to find the sum of these values:

- 14

- 6

- 12

- 7

# Java code to find the sum of four values:

```java
Integer total = 0;

total = 14 + 6 + 12 + 7;
```

# Related problem: write Java code to find the sum of a series of values to be entered by the user:

- … and you can't store them all in separate variables in memory

- (because you don't know how many values there will be)

# Add up these values:

1111

# Add up these values:

1234

# Add up these values:

2222

# Add up these values:

111

# Add up these values:

11

# What was the total?

# If we don't know how many values there will be, how can we do this?

- The only thing we can do is to keep track of the total for the numbers we have seen **SO FAR** !!!!

- Then, after we've seen the last value, that running total will be the final total

# Keeping a running total of the values entered by the user

- What is the starting value of total, before we've seen any actual values?

# Keeping a running total of the values entered by the user

- What is the starting value of total, before we've seen any actual values?

- total should start as zero!

# Keeping a running total of the values entered by the user

- First value in series:  1111

- total was zero, so now it should be 0 + 1111  ==  1111

# Keeping a running total of the values entered by the user

- Next value in series:  1234

- total was 1111, so now it should be 1111 + 1234  ==  2345

# Keeping a running total of the values entered by the user

- Next value in series: 2222

- total was 2345, so now it should be 2345 + 2222 == 4567

# Keeping a running total of the values entered by the user

- Next value in series:  111

- total was 4567, so now it should be 4567 + 111  ==  4678

# Keeping a running total of the values entered by the user

- Next value in series:  11

- total was 4678, so now it should be 4678 + 11  ==  4689

# What about finding the largest or the smallest value in a series of values entered by the user?

- Don't know what values will be added in the future

- Must keep track of the max or min that has been seen SO FAR !!!!

- Interesting issue: what should the starting value of the max or min be?

# What about finding the largest or the smallest value in a series of values entered by the user?

- Don't know what values will be added in the future

- Must keep track of the max or min that has been seen SO FAR !!!!

- Interesting issue:  what should the starting value of the max or min be?
  - max = Integer.MIN_VALUE;
  - min = Integer.MAX_VALUE;

# largest or smallest value in a series

- ```
if ( latestValueInSeries > max ) {
    max = latestValueInSeries;
}
```

- ```
if ( latestValueInSeries < min ) {
    min = latestValueInSeries;
}
```

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