# Ch 2: Introduction to C++
## Part 3

CS 1428
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Lecture 4

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# sizeof

- sizeof function returns size of a data type in bytes.

- The result is system-dependent.

- The argument may be a data type:
  sizeof(int)
  // result is 4 on most systems

- The argument may be a variable:
  double salary;
  cout << sizeof(salary);
  // result is 8 on most systems

# Variable Assignment and Initialization

- <variable> = <rhs>

- = is the assignment operator

- The left hand side must be a variable

- **Variable initialization:**
  assigning values in a variable definition:
    - double bankRate = 0.15;
    - int age = 21;

# Arithmetic Operators

- Arithmetic operators manipulate numbers

- Unary operators have one operand/argument:
    - -5
    - +9
    - -x

- minus sign (unary op) is called the *negation operator*.

# Arithmetic Operators

- Binary operators have two operands:

```
+    addition            x + y
-    subtraction         index - 1
*    multiplication      hours * rate
/    division            total / count
%    modulus             count % 3
```

- Integer division: if both operands are integers, the result has no fractional part

```
21 / 5   //value is: 4
21.0 / 5 //value is: 4.2
21 % 5   //value is: 1
```

# Comments

- Single-Line Comments

```
// this text is ignored, to end of line
```

- Multi-Line Comments

```
/*  Anything occuring between a slash star and
    a star slash is ignored.  Even when spanning
    multiple lines.    */
```

- Use comments to explain your code to a human reader who knows C++.