Computer Science 227
Introduction to Programming

Iowa State University

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Recap

- Data types:
  - `int`, `double`, `char`
  - `byte`, `short`, `long`, `float`, `boolean`

- Basic operations on data: `+`, `−`, `∗`, `/`, `%
String firstName = "John";
String lastName = "Doe";
String name = firstName + " " + lastName;

Declaring a variable named firstName whose type is String + stands for String concatenation.
Write a program that converts minutes into Hours and Minutes (in text form)
65 — 1Hr 5Mins
129—2Hr 9Mins
String Methods

String message = ‘‘Welcome to Java Programming’’;
int length = message.length();

length() is a **method** (operation) that can be performed on Strings. Returns the length of the String.

int pos = message.indexOf(’J’);

indexOf(·) is a **method** that can be performed on Strings. Returns the index of character ‘J’.
Index starts from 0.
String message = ‘Welcome to Java Programming’;
String part = message.substring(0, 7);

Returns substring from index 0 to index 6.

int start, end;
String message = ‘Welcome to Java Programming’;
String part = message.substring(start, end);
System.out.println(part.length());
String state = ‘Mississippi’;
int pos = state.indexOf(‘s’, 3);
int posOfI = state.indexOf(‘i’);
int nextPosOfI = state.indexOf(‘i’, posOfI+1);

indexOf(‘s’, 3) returns 3. Index of s starting from index 3.
String methods:
http://download.oracle.com/javase/6/docs/api/java/lang/String.html
Parameters

- `length()` does not have any parameters.
  - Do not need additional information to compute length
- `indexOf()` has one parameter.
  - Need additional information to perform the method
- `substring(·, ·)` has two parameters
  - Need additional information to perform the method.
- `println(·)` has one parameter
Return type of Methods

- length() returns the length of the string.
  - Type of the method is int
- indexOf() returns index of a character
  - Type of the method is int
- substring(·,·) returns substring between two positions.
  - Type of the method is String
- println(·) does not return any value
  - Its type is void
Practice Problems

- Write a program that swaps the first two words of a sentence (Assume that the sentence has at least two words).

- Write a program that outputs the domain name of a web address. Assume that web address is always of the form http://www.DOMAINNAME/path or http://www.DOMAINNAME
  For example if the address is http://www.whitehouse.gov, then domain name is whitehouse.gov
  If the address is http://www.en.wikipedia.org/wiki/White_House, then the domain name is en.wikipedia.org