

Constant Parameters and Default Values

Lecture 19
Section 6.12

Robb T. Koether

Hampden-Sydney College

Wed, Oct 9, 2013

1 Constant Parameters

2 Default Values for Parameters

Outline

- 1 Constant Parameters
- 2 Default Values for Parameters

Constant Parameters

- A **constant parameter** is a function parameter that the function is not permitted to change.
- To make a parameter constant, use the keyword **const** in the formal parameter list.
- Both value and reference parameters may be designated constant.
- A constant parameter may not be passed to another function as a non-constant parameter.

Examples of Constant Parameters

- Example

- `LetterCountFunc.cpp`

Constant Parameters

- A Dilemma:

Constant Parameters

- A Dilemma:
 - Value parameters waste time making the copies.

Constant Parameters

- A Dilemma:
 - Value parameters waste time making the copies.
 - Yet, reference parameters are not protected against change.

Constant Parameters

- A Dilemma:

- Value parameters waste time making the copies.
- Yet, reference parameters are not protected against change.
- So, what do we do if we want to pass a large parameter efficiently *and* protect it against change by the function?

Constant Parameters

- A Dilemma:
 - Value parameters waste time making the copies.
 - Yet, reference parameters are not protected against change.
 - So, what do we do if we want to pass a large parameter efficiently *and* protect it against change by the function?
- The Solution:
 - Make the parameter a constant reference parameter.
 - The object is protected (by `textbfconst`).
 - Only its address is passed (by reference).

Outline

1 Constant Parameters

2 Default Values for Parameters

Default Values for Parameters

- A function parameter may be given a **default value**.
- If the object is not specified in the actual parameter list, then the formal parameter takes on the default value.
- Default values are specified only in the function prototype, not in the function definition.

Examples of Default Parameter Values

- Examples

- `PercentScore.cpp`
- `GetWordFunc2.cpp`

Assignment

Assignment

- Read Section 6.12.