

# Modularization

CS 124 – Intro to Software Development

Macbeth – Lesson 5.1

# Agenda

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- Opening Prayer
- Scripture
- Q&A
  - Review Assignment
- Modularization
- Looking Ahead

# Scripture

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## **Moroni 7:35,37**

"[H]as the day of miracles ceased?

Behold I say unto you, Nay; for it is by faith that miracles are wrought; and it is by faith that angels appear and minister unto men."

# Cohesion

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1. Functional – The function is related to a single task. This is ideal.
2. Sequential – The function contains function calls that must occur in a certain order such that the results of the previous call are used in the next call. Very common.
3. Communicational – All tasks in the function are performed on the same data.
4. Procedural – Same as sequential except the results of the previous all are not used in the next call.
5. Temporal – All tasks in the function need to be done at the same time but are un-related. Common for initialization.
6. Logical – All tasks in the function do the same kind of things but they are not related to each other.
7. Coincidental – No relationship between tasks in a function. Not ideal.

# Coupling

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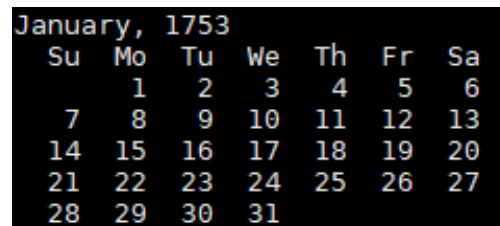
- When passing data between functions:
  - Inputs – Identify all inputs that are needed by the function (usually passed by value)
  - Outputs – Identify the outputs that are needed by the calling function (usually passed by reference or via the "return").
  - Never use global variables!

# Calendar

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## Requirements

- Ask the user for a month and a year.
- The month be [1-12] and the year must be greater than or equal to 1753.
- Display a calendar that looks like this:



January, 1753						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

- You must take into account leap year (366 days due to February having 29 days):
  - Every 4 years except on centuries (ie., 1800, 1900, 2000)
  - Exception: Every 400 years is a leap year (ie., 1600, 2000)
- January 1, 1753 was a Monday

## Looking Forward

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- Before Class on Wednesday
  - Read Section 2.1 – Debugging
  - Assignment 2.1
- Monday (not Saturday this week)
  - Project 05 is due – Please turn hardcopy with your name on it in class