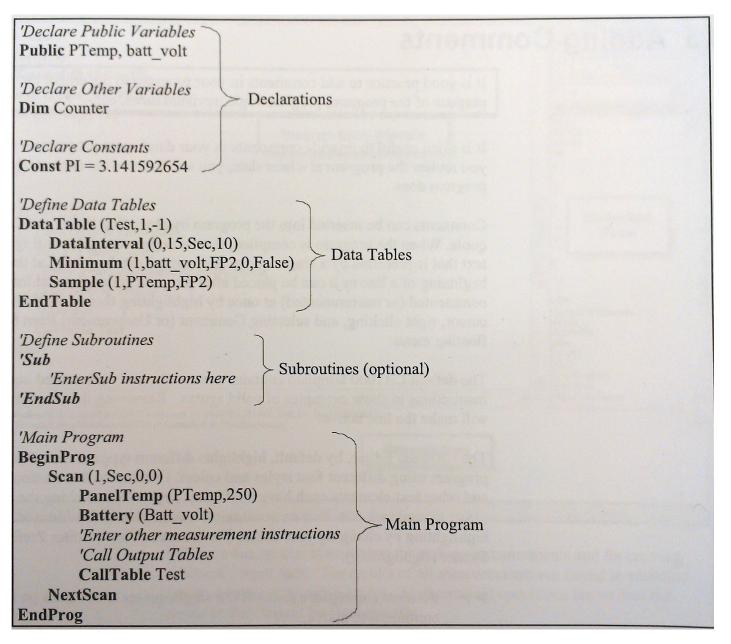
### Introduction to CR Basic

# Typical CR1000 Program



### Variable Declarations

- Variable a storage location and associated symbolic name which contains some value
- Variable Declarations a list of variables to be used for program measurements and calculations
- All variables <u>must be declared</u> before they can be used in the program

### Variable Declarations

- Public makes variable or variable array available in the Public data table
- Dim declares variables and variable arrays
  which are not available in the Public data table
- Const symbolic constants for use in place of numeric entries
- Alias assigns a second name to a variable

### Variable Declarations

- Most of the time, you will declare your variables as **Public**
- Const is used for numeric values that do not change (e.g. Const PI = 3.1415 -OR- sensor "calibration constants")
  - Convention is to CAPITALIZE Const variable names
- Alias useful when using variable arrays

## **Data Types & Formats**

- FLOAT 4 byte floating point
  - **Ex:** 1.234567
- LONG 4 byte signed integer
  - **E**x: -123
- BOOLEAN True (-1) or False (0)
- STRING ASCII string
  - Ex: "My Awesome Experiment"

# Other Data Types & Formats

- IEEE4 4 byte floating point for internal calculations and output
  - **Ex:** 1.234567
- **FP2** CSI 2 byte floating point for internal calculations and output
  - **Ex: 1.234**
- Binary internal calculations and output

### **Conditional Statements**

- Mathematical concept
- If p, then q

#### **Conditional Statements**

If some condition is true Then do something

Else

otherwise, condition is false and do something else

**EndIf** 

## Conditional Statements, cont.

```
If some condition A is true Then do something
```

Elself some condition B is true Then do something

Else

otherwise, condition is false and do something else

**EndIf**