Subroutines in PBASIC

- **gosub**
  
  Similar to **goto** but remembers a return

- **Example** -- LED flash
  
  ```
  flash3:
  in5 = 1
  for x = 1 to 3
    pause 300
    in5 = 0
    pause 300
    in5 = 1
  next
  return
  ```
Using a subroutine

- To flash LED after chip is reset
  
  ```
  variable declarations
  gosub flash3
  main:
    rest of code
  ```

- **Do not goto a subroutine!**
  - Effect of the `return` is unpredictable

- **Do not `if` to a subroutine!**
  
  ```
  if X > 0 then flash3
  ```
Possible tests of an if

- **if** *test* **then** *label*

- Relational operators
  - `=` equal
  - `<>` not equal
  - `>` greater than
  - `<` less than
  - `>=` greater than or equal
  - `<=` less than or equal
More tests of an if

- Logical operators
  - One condition operators
    - NOT Condition is false
  - Two condition operators
    - AND Both conditions are true
    - OR At least one condition is true
    - XOR Exactly one condition is true
Printing

■ To print a message
  debug “Starting...”

■ To print a value with name
  debug ?x

■ To print the value without name
  debug x

■ To clear the screen
  debug CLS