

# Do-While

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# Do-While

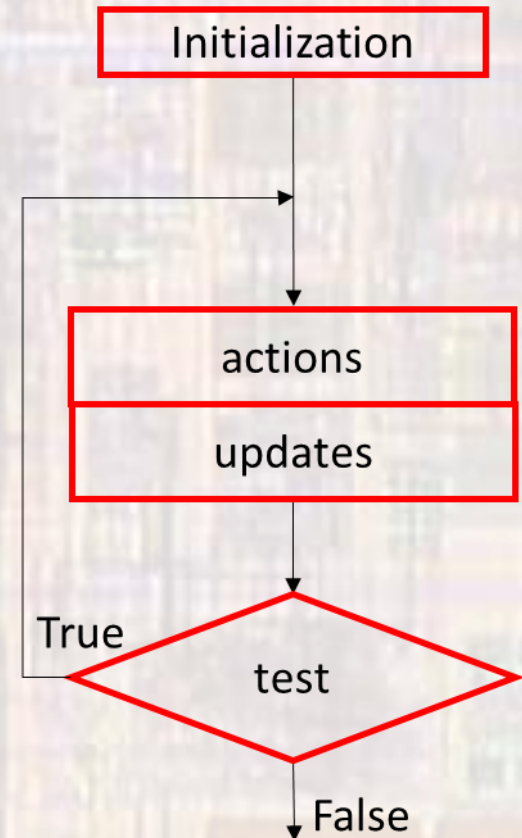
- These slides introduce the do loop
- Upon completion: You should be able to interpret and code solutions using the do loop

# Do-While

- Do-While Loop

```
do  
  statement;  
while(expression);
```

```
do{  
  statements;  
} while(expression);
```

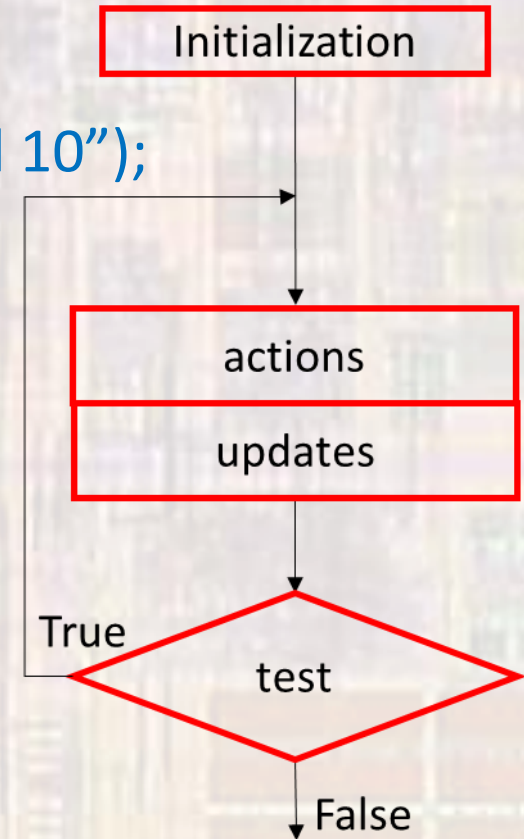


- Often used in data validation situations

# Do-While

- Do-While Loop

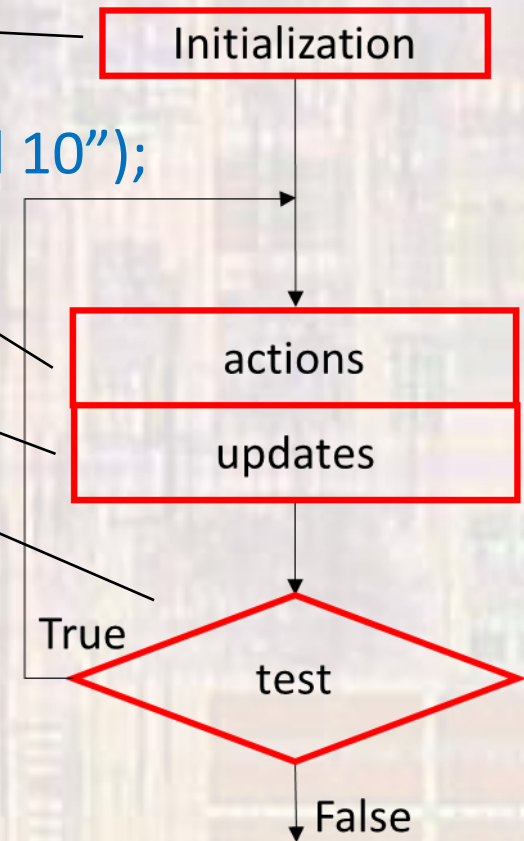
```
float num;  
do{  
    printf("enter a number between 1 and 10");  
    scanf("%f", &num);  
} while(num < 1 || num >10);
```



# Do-While

- Do-While Loop

```
float num;  
do{  
    printf("enter a number between 1 and 10");  
    scanf("%f", &num);  
} while(num <= 10 || num >=1);
```



# Do-While

- Do-While Loop
  - While pin 4 is high, flash LED on pin 3

```
* repetition3_msp.c
*
* Created on: Feb 17, 2017
* Author: Tim
*/
// flash an LED while input is high

#include "msp.h"

void flash(void);

int main(void){
    // Pins
    // note: pin 3 is Port 3 bit 2
    // note: pin 4 is Port 3 bit 3
    P3->DIR |= 0x04; // set pin 3 to output
    P3->DIR &= ~0x08; // set pin 4 to input

    while(1){
        //
        // Call flash while pin is high
        //
        do{
            flash();
        } while(P3->IN & 0x08);

        __delay_cycles(3000000);
    } // end while
    return 0;
} // end main
```

```
void flash(void){
    P3->OUT |= 0x04;
    __delay_cycles(3000000);
    P3->OUT &= ~0x04;
    __delay_cycles(3000000);
    return;
} // end flash
```