Do-While

Last updated 9/10/21
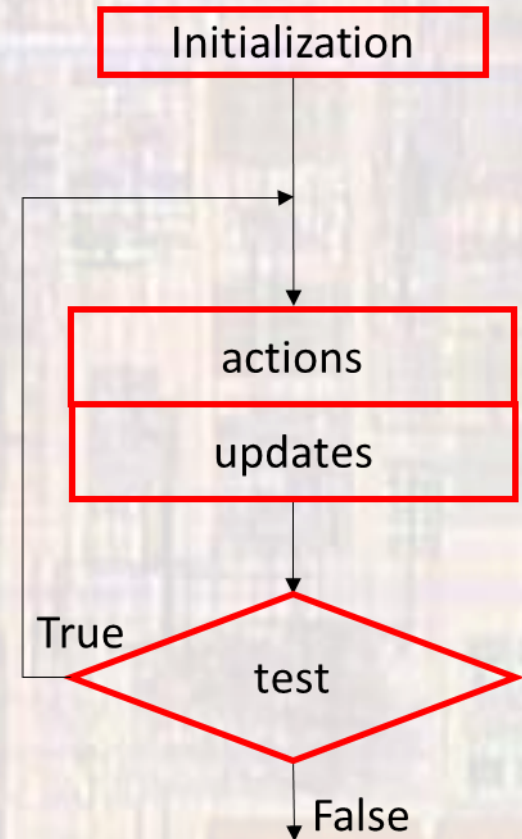
Do-While

- ## Do-While Loop

```
do
    statement;
while(expression);


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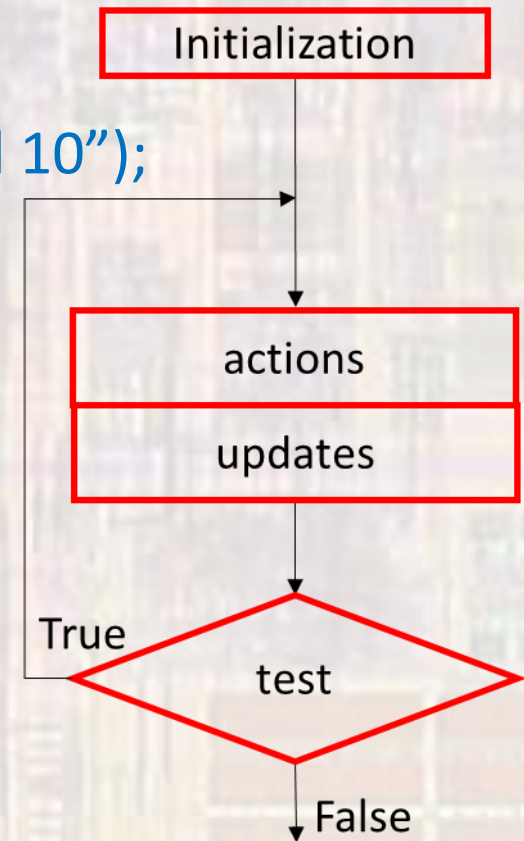

- ## Often used in data validation situations

Do-While
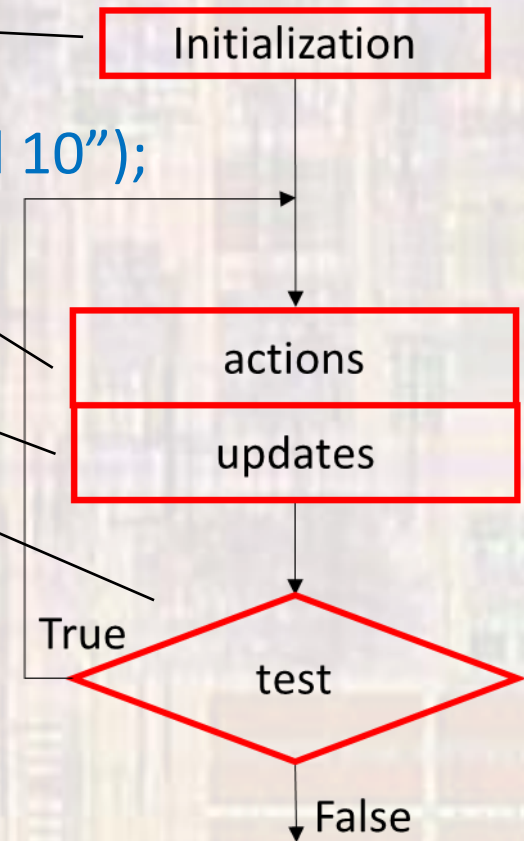
- Do-While Loop

```
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);
```


Initialization

actions

updates

True

test

False

Do-While

- Do-While Loop
  - While pin D4 is high, flash LED1

```
/////////////////////////////////////
//
// dowhile_class_ex_1 project
//
// created 5/12/21 by tj
// rev 0
//
/////////////////////////////////////
//
// do while example file for class
//
// Toggle an led while a pin is high
// LED is LD2, Pin is D4
//
/////////////////////////////////////

#include "mbed.h"
#include <stdio.h>

#define T_WAIT 500 // ms

// Create Global HW Objects
// led output attached to internal LED LED1
DigitalOut Led(LED1);
// Pin input attached to D4
DigitalIn Control(D4);
```

```
int main(void){
    setbuf(stdout, NULL);    // fix for terminal issue

    // splash
    printf("\n\ndowhile_class_ex_1 - example for EE2905\n");
    printf("Using Mbed OS version %d.%d.%d\n\n",
            MBED_MAJOR_VERSION, MBED_MINOR_VERSION, MBED_PATCH_VERSION);

    // run an endless loop
    while(1){
        // call the flash function if control = 1
        do{
            // flash led on and off at T_WAIT intervals
            Led.write(1);
            wait_us(T_WAIT);
            Led = 0;
            wait_us(T_WAIT);
        } while(Control.read() == 1);

        wait_us(T_WAIT*6);       // 3 sec

    }// end while

    return 0;
}// end main
```