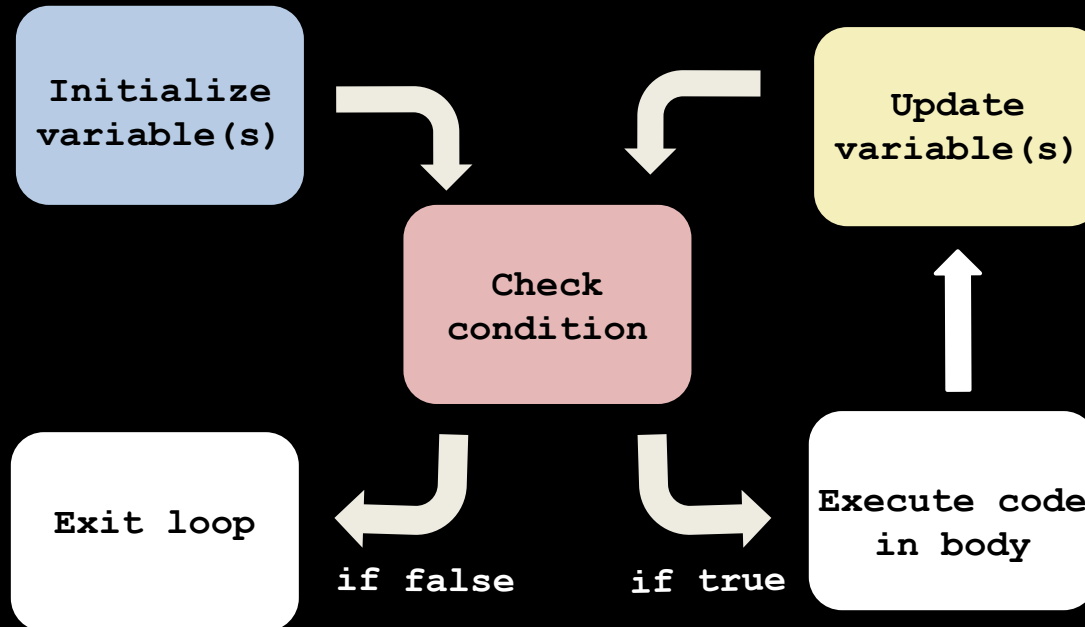


# Loops



# For Loops

```
for (initialization; condition; update)  
{  
  execute this code  
}
```



# Example #1

## Prints “This is CS50!” ten times



```
for (int i = 0; i < 10; i++)  
{  
    printf("This is CS50!\n");  
}
```

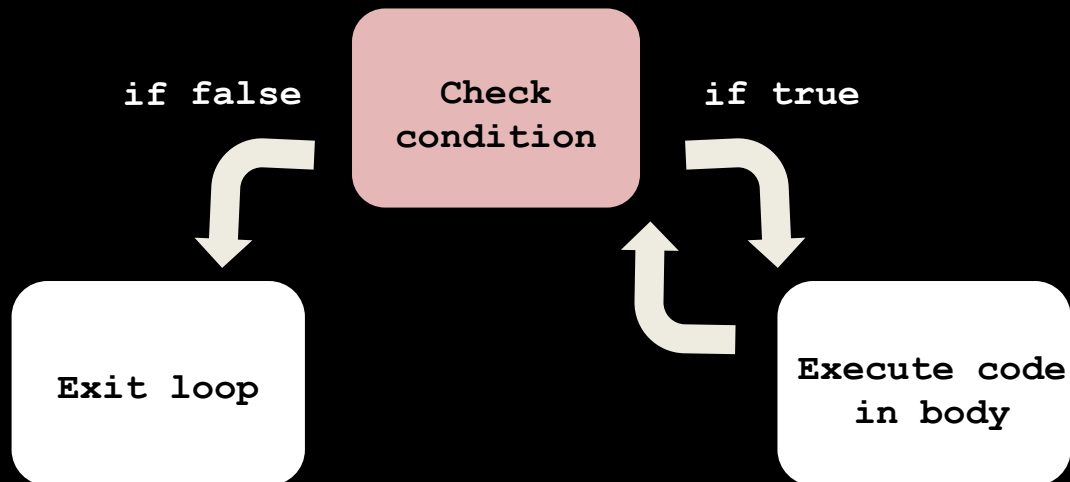
# Example #2

Converts a lowercase string to uppercase

```
char name[] = "milo";  
for (int i = 0, j = strlen(name); i < j; i++)  
{  
    name[i] = toupper(name[i]);  
}
```

# While Loops

```
while (condition)  
{  
    execute this code  
}
```



# Example #3

## Counts down from 10 to 0



```
int count = 10;
while (count >= 0)
{
    printf("%i\n", count);
    count--;
}
```

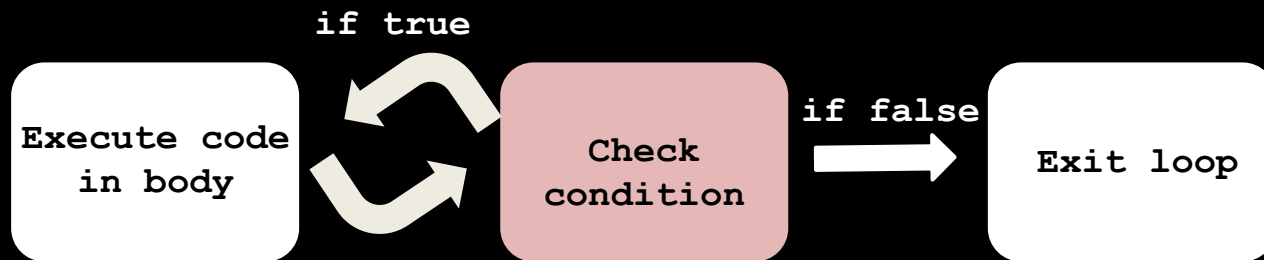
# Example #4

## Calculates string length

```
string s = GetString();  
int length = 0;  
while (s[length] != '\0')  
    length++;
```

# Do While Loops

```
do
{
    execute this code
}
while (condition);
```





# Example #5

## Reprompts until user enters a positive number

```
int input;
do
{
    printf("Enter a positive number: ");
    input = GetInt();
}
while (input < 1);
```