

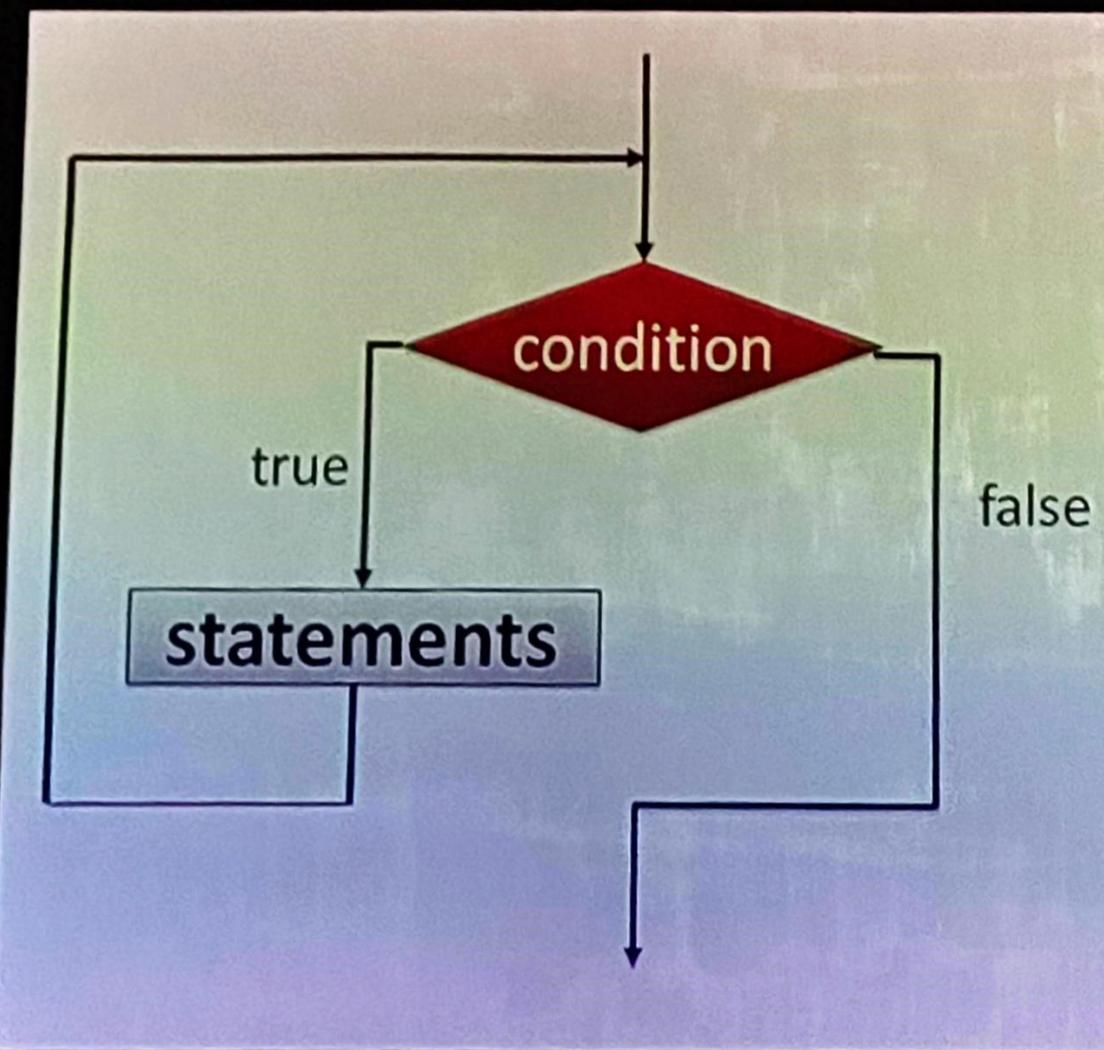
WHILE

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- **syntax:**

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

- **The expression is evaluated. If it is non-zero (TRUE), the statement(s) is executed. This cycle continues until the expression evaluates to zero (FALSE).**



```
int i = 5;
while( i > 0 )
{
    printf("Loop:%d\n", i);
    i--;
}
printf("While loop over.\n");
```

```
int i = 5;
while( i >= 0 )
{
    printf("Loop:%d\n", i);
    i--;
}
printf("While loop over.\n");
```

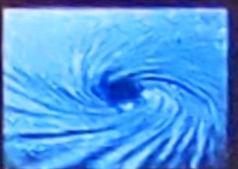
```
int i = 5;
while( i < 0 )
{
    printf("Loop:%d\n", i);
    i--;
}
printf("While loop over.\n");
```

WHILE

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To count number of characters:

```
int main()
{
    int count = 0;
    char ch;
    ch = getchar();
    while( ch != '\n' )
    {
        count++;
        ch = getchar();
    }
    printf( "you entered %d characters", count );
    return 0;
}
```



WHILE

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To count number of characters:

```
int main()
{
    int count = 0;
    char ch;
    ch = getchar();
    while( ch != '\n' )
    {
        if(ch == 'c'|| ch == 'C')
        {
            count++;
        }
        ch = getchar();
    }
    printf( "you entered %d characters", count );
    return 0;
}
```

Try counting the number of Cs in the Sea of Cs!



You entered 73 characters

LOOPS ...

```
int count=0;  
while( count==0 )  
{   printf( "Hi again!\n" );  
}
```



BREAK: EXITING A LOOP

To count number of characters

```
int count = 0;  
char letter;  
while( 1 )  
{  
    letter = getchar();  
    if ( letter == '\n' )  
        break;  
    else  
        count++;  
}  
printf("you entered %d characters", count);
```

THE FOR LOOP

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- > Counting items/things/events is something we do in most applications.
- > C has a special loop utility for this.
- > The **for** loop

FOR LOOP: THREE PARTS

Initialization

Terminating condition

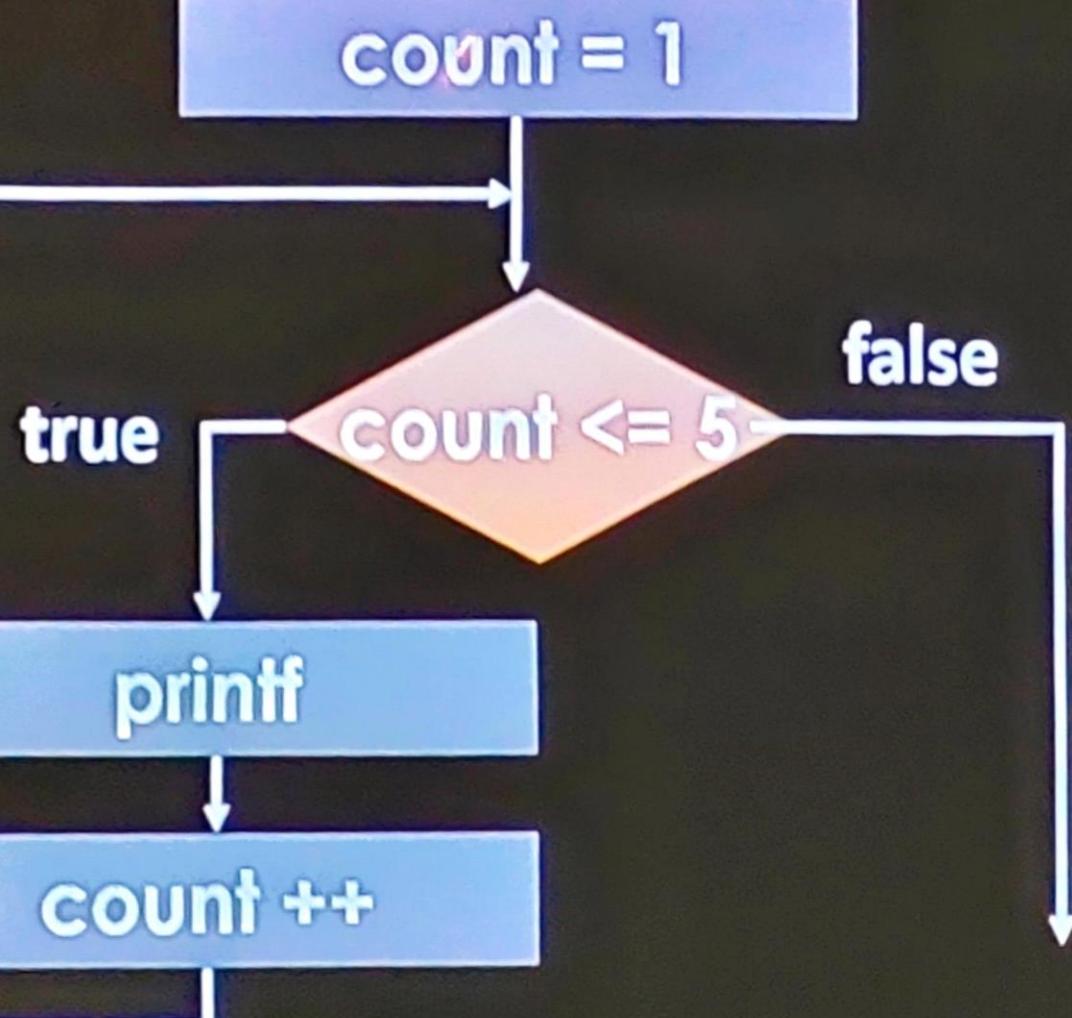
Increment or decrement

```
for( count=1; count<=5; count++ )  
{  
    printf( "value of count=%d\n", count );  
}
```

FOR LOOP: EXAMPLE

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```
for(count=1; count<=5; count++)  
    printf("count=%d\n", count);
```



```
for ( count=1; count<=5; count++ )  
{  
    printf( "value of count=%d\n", count );  
    count = 1;  
}
```

```
for ( count=1; count<=5; count++ )  
{  
    printf( "value of count=%d\n", count );  
    count = 1;  
}  
  
// Output:  
// value of count=1  
// value of count=1  
// value of count=1  
// value of count=1  
// value of count=1
```

```
for(t=1.7; t<2.2; t=t+0.1)
{
    printf("%4.2f\n", t);
}
```

```
for(t=1.7; t<2.2; t=t+0.1)
{
    printf("%4.2f\n", t);
}
```

```
for(t=1.7; t<2.2; t=t+0.1)
{
    printf("%4.2f\n", t);
}
```

**NEXT WEEK: The Adventure continues
Escaping the treacherous whirlpools**

Till then tread with care in the Sea of Cs.

Do we have time for Knuggets?