

Conditional program flow

true or false?

0 is false

Anything but 0 is true

Comparison ==, <, >, <=, >=, !=

== /*equal */

<= /* less or equal than */

>= /* greater or equal than */

!= /* not equal */

! /* means not */

5 == 5 /* is true */

4 == 5 /* is false */

4 <= 5 /* is true */

4 >= 5 /* is false */

4 != 5 /* is true */

!1 /* is false */

!0 /* is true */

if

```
if( /* condition is true */ ){
    /* then this code is executed */
}
```

```
#include <stdio.h>

int main(int argc, char **argv)
{
    int x=5, y=8;

    if( x < y ) {
        printf("x is less than y\n");
    }
    return 0;
}
```

if-else

```
if( /* condition is true */ ) {  
    /* then this code is executed */  
} else {  
    /* condition is false, this code is executed */  
}
```

```
#include <stdio.h>  
  
int main(int argc, char **argv)  
{  
    int x=5, y=8;  
    if( x < y ) {  
        printf("x is less than y\n");  
    } else {  
        printf("x is more than y\n");  
    }  
}
```

for

```
for( /* start */ ; /* condition */ ; /* each loop */ ) {  
    /* then this code is executed */  
}
```

```
#include <stdio.h>  
  
int main(int argc, char **argv)  
{  
    for(int i=0; i < 10; i++ ) {  
        printf("%d < 10 is %d\n",i, i<10);  
    }  
    printf("after loop\n");  
    printf("%d < 10 is %d\n",i, i<10);  
    return 0;  
}
```

while

```
while( /* condition is true */ ) {  
    /* then this code is executed until */  
    /* the condition evaluates to false */  
}
```

```
#include <stdio.h>  
  
int main(int arga, char**argv)  
{  
    int x=0, y=8;  
  
    while( x < y ) {  
        printf("%d < %d\n",x,y);  
        x++;  
    }  
    return 0;  
}
```

do-while

```
do {  
    /* then this code is executed until */  
    /* the condition evaluates to false */  
} while ( /* condition is true */ );
```

```
#include <stdio.h>  
  
int main(int argc, char**argv)  
{  
    int x=0, y=8;  
    do {  
        printf("%d < %d\n",x,y);  
        x++;  
    } while( x < y );  
    return 0;  
}
```

```
#include <stdio.h>  
  
int main(int argc, char**argv)  
{  
    int x=0, y=8;  
    do {  
        printf("%d < %d\n",x,y);  
    } while( ++x < y );  
    return 0;  
}
```


switch

```
switch (/* expression, variabel */ ) {  
    case 0:  
        /* expression is == 0 */  
        break;  
    case 1:  
        /* expression == 1 */  
        /* annan kod också ... */  
        break;  
    default:  
        /* expression is not 0 or 1 */  
        break;  
}
```

```
#include <stdio.h>
```

```
int main(int arga, char**argv)  
{  
    for( int i=0; i < 4; i++ ) {  
        switch( i ) {  
            case 0:  
                printf("i==0\n");  
                break;  
            case 1:  
                printf("i==1\n");  
                break;  
            default:  
                printf("%d is not 0 or 1\n",i);  
                break;  
        }  
    }  
    return 0;  
}
```

Assignment

Fork my repo [michellundell/3a-program-flow-operators](#)

Compile and run `3a-conditions-and-bits.c`, look at the code and compare with the output.

Then edit the `3a-using-all-stuff.c` and add code that use `if`, `for`, `while`, `do`, `switch` statements. It should also demonstrate the use of comparisons `==`, `!=`, `<=`, `>=` and how to use the `!`

Then make a pull-request for your changes of the `3a-using-all-stuff.c`

Happy coding.