

# Ch4: Conditional Programming

305171 Computer Programming

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# How to write one condition (if)

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

```
int main()
```

```
{
```

```
    if(2<3)
```

```
    {
```

```
        printf("2 is less than 3");
```

```
    }
```

```
    return 0;
```

```
}
```

Keyword  
"if"

A condition to check if  
it is true or false

Run codes in { } if the  
condition is true

# Logical Operators

Meaning	Syntax
OR	
AND	&&
NOT	!
Less than	<
Less than and equal	<=
Greater than	>
Greater than and equal	>=
Equal	==
Not equal	!=

# One condition with two output (ifelse)

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

```
int main()  
{
```

Check condition if it is true  
of false

Keyword  
"if"

```
if(2<3)
```

Run if the  
condition is  
true

```
{  
printf("2 is less than 3");
```

Keyword  
"else"

```
}else
```

```
{  
printf("2 is greater than or equal 3");  
}
```

Run if the condition is  
false

```
return 0;
```

```
}
```

# More Conditions

```
#include <stdio.h>

int main()
{
    if(2<3)
    {
        printf("2 is less than 3");
    }else if(2>3)
    {
        printf("2 is greater than 3");
    }else
    {
        printf("2 is equal 3");
    }
    return 0;
}
```

# Nested Conditions

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

```
int main()
```

```
{
```

```
    if(2<3)
```

```
    {
```

```
        printf("2 is less than 3\n");
```

```
        if(2/3==0){
```

```
            printf("2 is divided by 3\n");
```

```
        }else
```

```
        {
```

```
            printf("2 is NOT divided by 3\n");
```

```
        }
```

```
    }
```

```
    return 0;
```

```
}
```

Run all codes in this scope if condition is true

# Understand if-else

```
#include <stdio.h>

int main()
{
    if(3==4)
    {
        printf("3 is equal 4\n");
    }

    if(3!=4)
    {
        printf("3 is NOT equal 4\n");
    }

    if(3==4)
    {
        printf("3 is equal 4*\n");
    }
    else
    {
        printf("3 is NOT equal 4*\n");
    }
    return 0;
}
```

# Understand if-elseif

```
#include <stdio.h>

int main()
{
    if(3<4)
    {
        printf("3 is less than 4\n");
    }
    if(3>4)
    {
        printf("3 is greater than 4\n");
    }
    if(3==4)
    {
        printf("3 is equal 4\n");
    }

    if(3<4)
    {
        printf("3 is less than 4*\n");
    } else if(3>4)
    {
        printf("3 is greater than 4*\n");
    } else{
        printf("3 is equal 4*\n");
    }

    return 0;
}
```



# Understand Nested-if

```
#include <stdio.h>

int main()
{
    if(3<4)
    {
        if(2==2)
        {
            printf("3 is less than 4 and 2 are equal\n");
        }
    }

    if(3<4 && 2==2)
    {
        printf("3 is less than 4 and 2 are equal*\n");
    }

    return 0;
}
```

# Understand Nested-if

```
#include <stdio.h>

int main()
{
    if(3<4)
    {
        if(2==2)
        {
            printf("3 is less than 4 and 2 are equal\n");
        }else
        {
            printf("3 is less than 4 but 2 are NOT equal\n");
        }
    }

    if(3<4 && 2==2)
    {
        printf("3 is less than 4 and 2 are equal*\n");
    }else if(3<4 && 2!=2)
    {
        printf("3 is less than 4 and 2 are NOT equal*\n");
    }

    return 0;
}
```