Conditional Statements

- A conditional statement is a Boolean expression that, if True, executes a piece of code.

```
if True:
    print("1st if")

if False:
    print("2nd if")

if True:
    print("3rd if")

if False:
    print("4th if")

else:
    print("Else")
```

```
1st if
3rd if
Else
```

```
if True:
    print("1st if")

if False:
    print("2nd if")

if True:
    print("3rd if")

if True:
    print("4th if")

else:
    print("Else")
```

```
1st if
3rd if
4th if
```

```
# Challenge1: Take input a number and tell if it is positive or
negative
```

```python
n = int(input())

if n > 0:
    print(n, "is positive")

else:
    print(n, "is negative")
```

```
 0
```

```
0 is negative
```

```python
# Take input a number and check if a number is divisible by 5

# Quiz

n = int(input())

if n % 5 == 0:
    print("Yes, Divisible")

else:
    print("Not divisible")
```

```
 17341040
```

```
Yes, Divisible
```

```python
# Take input a number and print "yes" if it is divisible by either 5
or 7
```

```python
# Quiz

n = int(input())

if n % 5 == 0 or n % 7 == 0:
    print("Yes")

else:
    print("No")
```

```
 9
```

```
No
```

```python
# HW

# Take input a number and print "yes" if it is divisible by 5 and 7

n = int(input())

if n % 5 == 0 and n % 7 == 0:
    print("Yes")

else:
    print("No")
```

```
 35
```

```
Yes
```

Challenge

A bartender is trying to determine whether he should serve drinks to someone. He only serves drinks to people 18 and older and when he is not on break. Given the person's age, and whether the break time is in session.

```python
age = int(input())
Break = int(input())

if age >= 18 and Break == 0:
    print("Serve the drinks")
```

```
else:
    print("Don't serve")
```

```
 24
 0
```

```
Serve the drinks
```

```
1 == True
```

```
True
```

```
0 == False
```

```
True
```

```
# Challenge: You are given a task to design algorith for Traffic Light

# quiz

color = input()

if color == "red":
    print("Stop")

else:
    if color == "yellow":
        print("wait")

    else:

        if color == "green":
            print("Brrom brrrom")

        else:
            print("Invalid color")
```

```
 purple
```

```
Invalid color
```

```
"red" == "purple"
```

```
False
```

```
# if - elif - else
```

The if-else statement handles two sides of the same condition: True and False. This works very well if we're working with a problem that only has two outcomes. However, in programming, it isn't always a True or False scenario, and a problem can have multiple outcomes.

```
## Challenge: You are given a task to design algorith for Traffic Light
color = input()

if color == "red":
    print("Stop")

elif color == "yellow":
    print("wait")

elif color == "green":
    print("Brrom brrrom")

else:
    print("Invalid color")
```

```
 purple
```

```
Invalid color
```

Fizz Fuzz: Write a program that takes n as input and does the following:

- If n is a multiple of 3 print Fizz
- If n is a multiple of 5 print Fuzz
- If n is multiple of both 5 and 3 then print FizzFuzz

```
n = int(input())

if n % 3 == 0:
```

```
    print("Fizz")

elif n % 5 == 0:
    print("Fuzz")

elif n % 3 == 0 and n % 5 == 0:
    print("FizzFuzz")

else:
    print("No Fizz Fuzz")
```

```
 15
```

```
Fizz
```

```
n = int(input())

if n % 3 == 0 and n % 5 == 0:
    print("FizzFuzz")

elif n % 5 == 0:
    print("Fuzz")

elif n % 3 == 0:
    print("Fizz")
```

```
 15
```

```
FizzFuzz
```

```
# Quizzes

x = 5
if x < 5 or x > -1:
    x = x - 3
else:
    x = x + 3

print(x)
```

```
2
```

```python
x = 5
if x < 5 and x > -1:
    x = x - 3
else:
    x = x + 3

print(x)
```

```
8
```

```python
# Take a number user input and check if it is negative, positive or 0

# Quizzes

# if True


x = -12

if x > 0:
    print('positive')
elif x == 0:
    print('zero')
else:
    print('negative')
```

```
negative
```

```python
# Taxation: Print amount of tax on salary
# 10% for <= 10 lpa
# 20% for <= 15 lpa
# 30% for > 15lpa

salary = int(input())

if salary <= 1000000:
    tax = salary * 0.1

elif salary <= 1500000:
    tax = 1000000 * 0.1 + (salary - 1000000) * 0.2
```

```
elif salary > 1500000:
    tax = 1000000 * 0.1 + (500000) * 0.2 + (salary - 1500000) * 0.3

print(tax)
```

```
 2000000

350000.0
```

```
## Take user input marks and print the grade
# A for 90 to 100
# B for 80 to 90
# C for 70 to 80
# D for 60 to 70
# E for less than 60


marks = 33
print(marks >= 35 and marks <= 100)
```

```
False
```

```
# Doubts

color = input()

if color == "red":
    print("Stop")

if color == "yellow":
    print("wait")


if color == "green":
```

```
    print("Brrom brrrom")

else:
    print("Invalid color")
```

```
 red
```

```
Stop
Invalid color
```