

```
In [ ]: # Simple usage of if, else statements

print('Welcome to the rollercoaster!')
height = int(input('What is your height in cm? '))

if height >= 120:
    print('You are allowed to ride the rollercoaster')
else:
    print('Sorry, You are not allowed to ride the rollercoaster')
```

Welcome to the rollercoaster!

You are allowed to ride the rollercoaster

### Comparison Operators

```
In [ ]: # Operators          Meanings

# >          Greater Than
# <          Less than
# >=         Greater than or equal to
# <=         Less than or equal to
# ==         Equal To
# !=         Not equal to
```

### Coding Exercise -1

```
In [ ]: # The modulo is written as a percentage sign (%) in Python.
# It gives you the remainder after a division.

# 6 ÷ 2 = 3 with no remainder.

# therefore: 6 % 2 = 0

# 5 ÷ 2 = 2 x 2 + 1, remainder is 1.

# therefore: 5 % 2 = 1

# 14 ÷ 4 = 3 x 4 + 2, remainder is 2.

# therefore: 14 % 4 = 2
```

### Identifying The odd or even number

```
In [ ]: number = int(input('Which number do you want to check? '))
a = number % 2

if a == 0:
    print('This is an even number')
else:
    print('This is an odd number')
```

This is an even number

### Nested if and else statements

```
In [ ]: print('Welcome to the rollercoaster!')
height = int(input('What is your height in cm? '))
```

```

print(f'Your height is {height} cm')
bill = 0

if height >= 120:
    print('You are allowed to ride the rollercoaster')
    age = int(input('What is your age? '))
    print(f'Your age is {age}')
    if age >= 18 and age < 45:
        bill = 12
        print('Your ticket price is 12')
    elif age < 12:
        bill = 5
        print('The ticket price is 5')
    elif age >= 12 and age < 18:
        bill = 7
        print('your ticket price is 7 ')
    elif age >= 45 and age <= 55:
        bill = 0
        print('You have a free ride')
    photo = input('Do you want a photo? Press Y for yes or N For no')
    if photo == 'y':
        bill = bill + 3
        print('Your photo price is 3')
    print(f'The total bill is {bill}')
else:
    print('Sorry, You are not allowed to ride the rollercoaster')

```

Welcome to the rollercoaster!  
 Your height is 180 cm  
 You are allowed to ride the rollercoaster  
 Your age is 45  
 You have a free ride  
 Your photo price is 3  
 The total bill is 3

Coding exercise 2

BMI 2.0

In [ ]: *# It should tell them the interpretation of their BMI based on the BMI value.*

```

# Under 18.5 they are underweight
# Over 18.5 but below 25 they have a normal weight
# Over 25 but below 30 they are slightly overweight
# Over 30 but below 35 they are obese
# Above 35 they are clinically obese.

```

In [ ]: *# Don't change the code below*  
 height = float(input("enter your height in m: "))  
 weight = float(input("enter your weight in kg: "))  
*# Don't change the code above*

```

# Write your code below this line
print(f'Your heighth is {height} m')
print(f'Your weight is {weight} kg')
BMI = weight / height**2
bmi = round(BMI)
if bmi < 18.5:
    print(f'Your BMI is {bmi}, you are underweight.')

```

```

elif bmi < 25:
    print(f'Your BMI is {bmi}, you have a normal weight.')
elif bmi < 30:
    print(f'Your BMI is {bmi}, you are slightly overweight.')
elif bmi < 35:
    print(f'Your BMI is {bmi}, you are obese.')
else:
    print(f'Your BMI is {bmi}, you are clinically obese.')

```

Your height is 1.8 m

Your weight is 68.0 kg

Your BMI is 21, you have a normal weight.

Coding exercise - Leap Year

```

In [ ]: # This is how you work out whether if a particular year is a Leap year.

# on every year that is evenly divisible by 4

# **except** every year that is evenly divisible by 100

# **unless** the year is also evenly divisible by 400

```

```

In [ ]: # e.g. The year 2000:

# 2000 ÷ 4 = 500 (Leap)

# 2000 ÷ 100 = 20 (Not Leap)

# 2000 ÷ 400 = 5 (Leap!)

# So the year 2000 is a Leap year.

# But the year 2100 is not a Leap year because:

# 2100 ÷ 4 = 525 (Leap)

# 2100 ÷ 100 = 21 (Not Leap)

# 2100 ÷ 400 = 5.25 (Not Leap)

```

```

In [ ]: # Don't change the code below
year = int(input("Which year do you want to check? "))
# Don't change the code above

#Write your code below this line
print(f'The year entered is {year}')
if (year % 4) == 0:
    if (year % 100) == 0:
        if (year % 400) == 0:
            print(f'The Year {year} is a Leap Year')
        else:
            print(f'The Year {year} is Not a Leap Year')
    else:
        print(f'The Year {year} is a Leap Year')
else:
    print(f'The Year {year} is Not a Leap Year')

```

The year entered is 2024  
The Year 2024 is a Leap Year

### Coding exercise - Pizza order

In [ ]: *# Based on a user's order, work out their final bill.*

*# Small Pizza: \$15*

*# Medium Pizza: \$20*

*# Large Pizza: \$25*

*# Pepperoni for Small Pizza: +\$2*

*# Pepperoni for Medium or Large Pizza: +\$3*

*# Extra cheese for any size pizza: + \$1*

In [ ]: *# Don't change the code below*

```
print("Welcome to Python Pizza Deliveries!")
```

```
size = input("What size pizza do you want? S, M, or L ")
```

```
add_pepperoni = input("Do you want pepperoni? Y or N ")
```

```
extra_cheese = input("Do you want extra cheese? Y or N ")
```

*# Don't change the code above*

*#Write your code below this line*

```
rate = 0
```

```
if size == "S":
```

```
    rate = 15
```

```
    if add_pepperoni == "Y":
```

```
        rate = rate + 2
```

```
    if extra_cheese == "Y":
```

```
        rate = rate + 1
```

```
elif size == "M":
```

```
    rate = 20
```

```
    if add_pepperoni == "Y":
```

```
        rate = rate + 3
```

```
    if extra_cheese == "Y":
```

```
        rate = rate + 1
```

```
elif size == "L":
```

```
    rate = 25
```

```
    if add_pepperoni == "Y":
```

```
        rate = rate + 3
```

```
    if extra_cheese == "Y":
```

```
        rate = rate + 1
```

```
print(f'Your final bill is: {rate}.')
```

Welcome to Python Pizza Deliveries!  
Your final bill is: 29.

### Logical Operators

In [ ]: *# and - Activates when two conditions are True*

*# or - Activates when any one condition is True*

*# not - Activates when two conditions are False*

```
In [ ]: print('Welcome to the rollercoaster!')
height = int(input('What is your height in cm? '))
print(f'Your height is {height} cm')
bill = 0

if height >= 120:
    print('You are allowed to ride the rollercoaster')
    age = int(input('What is your age? '))
    print(f'Your age is {age}')
    if age >= 18 and age < 45:
        bill = 12
        print('Your ticket price is 12')
    elif age < 12:
        bill = 5
        print('The ticket price is 5')
    elif age >= 12 and age < 18:
        bill = 7
        print('your ticket price is 7 ')
    elif age >= 45 and age <= 55:
        bill = 0
        print('You have a free ride')
    photo = input('Do you want a photo? Press Y for yes or N For no')
    if photo == 'y':
        bill = bill + 3
        print('Your photo price is 3')
    print(f'The total bill is {bill}')
else:
    print('Sorry, You are not allowed to ride the rollercoaster')
```

```
Welcome to the rollercoaster!
Your height is 179 cm
You are allowed to ride the rollercoaster
Your age is 19
Your ticket price is 12
Your photo price is 3
The total bill is 15
```

### Coding exercise - Love Calculator

```
In [ ]: # Don't change the code below
print("Welcome to the Love Calculator!")
name1 = input("What is your name? \n")
name2 = input("What is their name? \n")
# Don't change the code above

#Write your code below this line
name_1 = name1.lower()
name_2 = name2.lower()
name = (name_1 + name_2)

t = name.count('t')
r = name.count('r')
u = name.count('u')
e = name.count('e')

true = (t+ r + u + e)
print(true)

l = name.count('l')
```

```
o = name.count('o')
v = name.count('v')
e = name.count('e')

love = (l + o + v + e)
print(love)
true_love = str(true) + str(love)
true_love1 = int(true_love)
# print(true_love)
if true_love1 < 10 or true_love1 > 90:
    print(f'Your score is {true_love}, you go together like coke and mentos.')
elif true_love1 >= 40 and true_love1 <= 50:
    print(f'Your score is {true_love}, you are alright together.')
else:
    print(f'Your score is {true_love}.')
```

Welcome to the Love Calculator!

6

2

Your score is 62.

## DAY-3 Final Project

[illegible]

```
print("You enter a room of beasts. Game Over.")
else:
    print("You chose a door that doesn't exist. Game Over.")
else:
    print("You get attacked by an angry trout. Game Over.")
else:
    print("You fell into a hole. Game Over.")
```

[illegible]

```
Welcome to Treasure Island.
Your mission is to find the treasure.
You found the treasure! You Win!
```

