

Conditional Statement

- if
- else
- nested if
- if elif else

```
In [67]: if True:  
    print('Santosh Sahu')
```

Santosh Sahu

```
In [68]: if False:  
    print('Santosh Sahu')  
print('Follow in Instagram')
```

Follow in Instagram

```
In [69]: if True:  
    print('Santosh Sahu')  
print('Follow in Instagram')
```

Santosh Sahu
Follow in Instagram

```
In [70]: if True:  
    print('Santosh Sahu')  
else:  
    print('Follow in Instagram')
```

Santosh Sahu

```
In [71]: if False:  
    print('Santosh Sahu')  
else:  
    print('Follow in Instagram')
```

Follow in Instagram

```
In [10]: x = 4  
r = x % 2  
  
if r == 0:  
    print('Even number')
```

Even number

```
In [11]: x = 6  
r = x % 2  
  
if r == 0:  
    print('Even number')
```

Even number

```
In [12]: x = 8  
r = x % 2  
  
if r == 0:  
    print('Even number')
```

Even number

```
In [13]: x = 5  
r = x % 2  
  
if r == 0:  
    print('Even number')
```

```
In [14]: x = 5  
r = x % 2  
  
if r != 0:  
    print('Odd number')
```

Odd number

```
In [15]: x = 3  
r = x % 2
```

```
if r != 0:  
    print('Odd number')
```

Odd number

```
In [16]: x = 7  
r = x % 2  
  
if r != 0:  
    print('Odd number')
```

Odd number

```
In [17]: x = 9  
r = x % 2  
  
if r != 0:  
    print('Odd number')
```

Odd number

```
In [18]: x = 7  
r = x % 2  
  
if r == 1:  
    print('Odd number')
```

Odd number

```
In [19]: x = 9  
r = x % 2  
  
if r == 1:  
    print('Odd number')
```

Odd number

```
In [25]: x = 5  
r = x % 2  
  
if r == 0:  
    print('Even number')
```

```
print('odd number')
```

odd number

In [26]:

```
x = 7
r = x % 2

if r == 0:
    print('Even number')

print('odd number')
```

odd number

In [27]:

```
x = 9
r = x % 2

if r == 0:
    print('Even number')

print('odd number')
```

odd number

In [28]:

```
x = 4
r = x % 2

if r == 0:
    print('Even number')

print('odd number')
```

Even number

odd number

In [29]:

```
x = 6
r = x % 2

if r == 0:
    print('Even number')
```

```
print('odd number')
```

Even number
odd number

```
In [30]: x = 8
r = x % 2

if r == 0:
    print('Even number')

print('odd number')
```

Even number
odd number

```
In [31]: x = 5
r = x % 2

if r == 0:
    print('Even number')

print('odd number')
```

odd number

```
In [32]: x = 9
r = x % 2

if r == 0:
    print('Even number')

if r == 1:
    print('odd number')
```

odd number

```
In [33]: x = 7
r = x % 2

if r == 0:
```

```
    print('Even number')

if r == 1:
    print('odd number')
```

odd number

```
In [34]: x = 5
r = x % 2

if r == 0:
    print('Even number')

if r == 1:
    print('odd number')
```

odd number

```
In [35]: x = 4
r = x % 2

if r == 0:
    print('Even number')

if r == 1:
    print('odd number')
```

Even number

```
In [36]: x = 6
r = x % 2

if r == 0:
    print('Even number')

if r == 1:
    print('odd number')
```

Even number

```
In [37]: x = 8
r = x % 2
```

```
if r == 0:  
    print('Even number')  
  
else:  
    print('odd number')
```

Even number

```
In [38]: x = 6  
r = x % 2  
  
if r == 0:  
    print('Even number')  
  
else:  
    print('odd number')
```

Even number

```
In [39]: x = 4  
r = x % 2  
  
if r == 0:  
    print('Even number')  
  
else:  
    print('odd number')
```

Even number

```
In [40]: x = 9  
r = x % 2  
  
if r != 0:  
    print('odd number')  
  
else:  
    print('even number')
```

odd number

```
In [41]: x = 7
r = x % 2

if r != 0:
    print('odd number')

else:
    print('even number')
```

odd number

```
In [42]: x = 5
r = x % 2

if r != 0:
    print('odd number')

else:
    print('even number')
```

odd number

```
In [43]: x = 3
r = x % 2

if r != 0:
    print('odd number')

else:
    print('even number')
```

odd number

```
In [44]: x = 3
r = x % 2

if r == 0:
    print('Even number')
if x>5:
    print('greater number')
```

```
    else:  
        print('Odd Number')
```

Odd Number

```
In [45]: x = 5  
r = x % 2  
  
if r == 0:  
    print('Even number')  
    if x>5:  
        print('greater number')  
  
else:  
    print('Odd Number')
```

Odd Number

```
In [46]: x = 9  
r = x % 2  
  
if r == 0:  
    print('Even number')  
    if x>5:  
        print('greater number')  
  
else:  
    print('Odd Number')
```

Odd Number

```
In [47]: x = 4  
r = x % 2  
  
if r == 0:  
    print('Even number')  
    if x>5:  
        print('greater number')  
  
else:  
    print('Odd Number')
```

Even number

```
In [48]: x = 4
r = x % 2

if r == 0:
    print('Even number')

    if x>5:
        print('greater number')
    else:
        print('lesser number')

else:
    print('Odd Number')
```

Even number
lesser number

```
In [49]: x = 7
r = x % 2

if r == 0:
    print('Even number')

    if x>5:
        print('greater number')
    else:
        print('lesser number')

else:
    print('Odd Number')
```

Odd Number

```
In [50]: x = 10
r = x % 2

if r == 0:
    print('Even number')
```

```
if x>5:  
    print('greater number')  
else:  
    print('lesser number')  
  
else:  
    print('Odd Number')
```

Even number
greater number

```
In [51]: x = 2  
r = x % 2  
  
if r == 0:  
    print('Even number')  
  
if x>5:  
    print('greater number')  
else:  
    print('lesser number')  
  
else:  
    print('Odd Number')
```

Even number
lesser number

```
In [52]: x = 13  
r = x % 2  
  
if r == 0:  
    print('Even number')  
  
if x>5:  
    print('greater number')  
else:  
    print('lesser number')  
  
else:  
    print('Odd Number')
```

Odd Number

```
In [53]: x = 3

if x == 1:
    print('one')
if x == 2:
    print('Two')
if x == 3:
    print('Three')
if x == 4:
    print('four')
```

Three

```
In [54]: x = 4

if x == 1:
    print('one')
if x == 2:
    print('Two')
if x == 3:
    print('Three')
if x == 4:
    print('four')
```

four

```
In [55]: x = 2

if x == 1:
    print('one')
if x == 2:
    print('Two')
if x == 3:
    print('Three')
if x == 4:
    print('four')
```

Two

```
In [56]: x = 1

if x == 1:
    print('one')
if x == 2:
    print('Two')
if x == 3:
    print('Three')
if x == 4:
    print('four')
```

one

```
In [57]: x = 1

if x == 1:
    print('one')
elif x == 2:
    print('Two')
elif x == 3:
    print('Three')
elif x == 4:
    print('four')
```

one

```
In [58]: x = 5

if x == 1:
    print('one')

elif x == 2:
    print('Two')
elif x == 3:
    print('Three')
elif x == 4:
    print('four')

else:
    print('number not found')
```

number not found

```
In [59]: x = 6

if x == 1:
    print('one')

elif x == 2:
    print('Two')
elif x == 3:
    print('Three')
elif x == 4:
    print('four')

else:
    print('number not found')
```

number not found

```
In [60]: x = 7

if x == 1:
    print('one')

elif x == 2:
    print('Two')
elif x == 3:
    print('Three')
elif x == 4:
    print('four')

else:
    print('number not found')
```

number not found

```
In [61]: x = 5

if x == 1:
    print('one')
```

```
elif x == 2:  
    print('Two')  
elif x == 3:  
    print('Three')  
elif x == 4:  
    print('four')  
elif x == 5:  
    print('Five')  
  
else:  
    print('number not found')
```

Five

```
In [63]: x = 6  
  
if x == 1:  
    print('one')  
  
elif x == 2:  
    print('Two')  
elif x == 3:  
    print('Three')  
elif x == 4:  
    print('four')  
elif x == 5:  
    print('Five')  
elif x == 6:  
    print('Six')  
  
else:  
    print('number not found')
```

Six

```
In [64]: x = 8  
  
if x == 1:  
    print('one')  
  
elif x == 2:
```

```
    print('Two')
elif x == 3:
    print('Three')
elif x == 4:
    print('four')
elif x == 5:
    print('Five')
elif x == 6:
    print('Six')

else:
    print('number not found')
```

number not found

If Conditional Statement

If statement is the simplest form of a conditional statement. It executes a block of code if the given condition is true.

```
In [65]: age = 19
if age > 18: print("Eligible to Vote.")
```

Eligible to Vote.

```
In [66]: age = 19
if age > 18: print("Santosh sahu")
```

Santosh sahu

```
In [73]: age = 16
if age >= 18:
    print("You can apply for a driving license.")
else:
    print("You are not eligible for a driving license yet.")
```

You are not eligible for a driving license yet.

```
In [74]: age = 20
if age >= 18:
    print("You can apply for a driving license.")
```

```
else:  
    print("You are not eligible for a driving license yet.")
```

You can apply for a driving license.

```
In [75]: age = 25  
if age >= 18:  
    print("You can apply for a driving license.")  
else:  
    print("You are not eligible for a driving license yet.")
```

You can apply for a driving license.

```
In [76]: age = 17  
if age >= 18:  
    print("You can apply for a driving license.")  
else:  
    print("You are not eligible for a driving license yet.")
```

You are not eligible for a driving license yet.

If else Conditional Statement

If Else allows us to specify a block of code that will execute if the condition(s) associated with an if or elif statement evaluates to False. Else block provides a way to handle all other cases that don't meet the specified conditions.

```
In [77]: age = 15  
if age >= 13:  
    print("You need a student ID card.")  
else:  
    print("No ID card required.")
```

You need a student ID card.

```
In [79]: age = 12  
if age >= 13:  
    print("You need a student ID card.")  
else:  
    print("No ID card required.")
```

No ID card required.

```
In [80]: age = 11
if age >= 13:
    print("You need a student ID card.")
else:
    print("No ID card required.")
```

No ID card required.

```
In [81]: age = 14
if age >= 13:
    print("You need a student ID card.")
else:
    print("No ID card required.")
```

You need a student ID card.

Short Hand if-else

The short-hand if-else statement allows us to write a single-line if-else statement.

```
In [82]: temperature = 25
weather = "Hot" if temperature >= 30 else "Cool"
print(f"Weather: {weather}")
```

Weather: Cool

```
In [83]: temperature = 17
weather = "Hot" if temperature >= 30 else "Cool"
print(f"Weather: {weather}")
```

Weather: Cool

```
In [84]: temperature = 32
weather = "Hot" if temperature >= 30 else "Cool"
print(f"Weather: {weather}")
```

Weather: Hot

```
In [85]: temperature = 50
weather = "Hot" if temperature >= 30 else "Cool"
print(f"Weather: {weather}")
```

Weather: Hot

```
In [86]: temperature = 40
weather = "Hot" if temperature >= 30 else "Cool"
print(f"Weather: {weather}")
```

Weather: Hot

elif Statement

elif statement in Python stands for "else if." It allows us to check multiple conditions, providing a way to execute different blocks of code based on which condition is true. Using elif statements makes our code more readable and efficient by eliminating the need for multiple nested if statements.

if_1st_true.webp

```
In [87]: income = 45000

if income <= 20000:
    print("Low income.")
elif income <= 50000:
    print("Middle income.")
elif income <= 100000:
    print("Upper middle income.")
else:
    print("High income.")
```

Middle income.

```
In [88]: income = 100000

if income <= 20000:
    print("Low income.")
elif income <= 50000:
```

```
    print("Middle income.")
elif income <= 100000:
    print("Upper middle income.")
else:
    print("High income.")
```

Upper middle income.

In [89]:

```
income = 450000000

if income <= 20000:
    print("Low income.")
elif income <= 50000:
    print("Middle income.")
elif income <= 100000:
    print("Upper middle income.")
else:
    print("High income.")
```

High income.

In [90]:

```
income = 4000

if income <= 20000:
    print("Low income.")
elif income <= 50000:
    print("Middle income.")
elif income <= 100000:
    print("Upper middle income.")
else:
    print("High income.")
```

Low income.

Nested if..else Conditional Statement

Nested if..else means an if-else statement inside another if statement. We can use nested if statements to check conditions within conditions.

```
In [91]: amount = 1200
is_member = False

if amount >= 1000:
    if is_member:
        print("You get a 25% member discount!")
    else:
        print("You get a 10% regular discount.")
else:
    print("No discount available.")
```

You get a 10% regular discount.

```
In [92]: amount = 800
is_member = False

if amount >= 1000:
    if is_member:
        print("You get a 25% member discount!")
    else:
        print("You get a 10% regular discount.")
else:
    print("No discount available.")
```

No discount available.

```
In [93]: amount = 1200
is_member = False

if amount >= 1000:
    if is_member:
        print("You get a 25% member discount!")
    else:
        print("You get a 10% regular discount.")
else:
    print("No discount available.")
```

You get a 10% regular discount.

```
In [94]: amount = 12000
is_member = False
```

```
if amount >= 1000:  
    if is_member:  
        print("You get a 25% member discount!")  
    else:  
        print("You get a 10% regular discount.")  
else:  
    print("No discount available.")
```

You get a 10% regular discount.

```
In [96]: amount = 1500  
is_member = True  
  
if amount >= 1000:  
    if is_member:  
        print("You get a 25% member discount!")  
    else:  
        print("You get a 10% regular discount.")  
else:  
    print("No discount available.")
```

You get a 25% member discount!

```
In [97]: amount = 1200  
is_member = True  
  
if amount >= 1000:  
    if is_member:  
        print("You get a 25% member discount!")  
    else:  
        print("You get a 10% regular discount.")  
else:  
    print("No discount available.")
```

You get a 25% member discount!

```
In [98]: amount = 22000  
is_member = True  
  
if amount >= 1000:  
    if is_member:
```

```
        print("You get a 25% member discount!")
else:
    print("You get a 10% regular discount.")
else:
    print("No discount available.")
```

You get a 25% member discount!

Ternary Conditional Statement

-A ternary conditional statement is a compact way to write an if-else condition in a single line. It's sometimes called a "conditional expression."

```
In [99]: marks = 75
grade = "Pass" if marks >= 40 else "Fail"
print(grade)
```

Pass

```
In [100...]: marks = 35
grade = "Pass" if marks >= 40 else "Fail"
print(grade)
```

Fail

```
In [101...]: marks = 100
grade = "Pass" if marks >= 40 else "Fail"
print(grade)
```

Pass

```
In [102...]: marks = 68
grade = "Pass" if marks >= 40 else "Fail"
print(grade)
```

Pass

```
In [103...]: marks = 36
grade = "Pass" if marks >= 40 else "Fail"
print(grade)
```

Fail

In [104...]

```
marks = 39
grade = "Pass" if marks >= 40 else "Fail"
print(grade)
```

Fail

In [105...]

```
marks = 40
grade = "Pass" if marks >= 40 else "Fail"
print(grade)
```

Pass

In [106...]

```
marks = 45
grade = "Pass" if marks >= 40 else "Fail"
print(grade)
```

Pass

Match-Case Statement

match-case statement is Python's version of a switch-case found in other languages. It allows us to match a variable's value against a set of patterns.

In [107...]

```
day = "Sunday"

match day:
    case "Monday":
        print("Start of the week!")
    case "Saturday" | "Sunday":
        print("Weekend vibes!")
    case _:
        print("Midweek hustle!")
```

Weekend vibes!

In [108...]

```
day = "Monday"

match day:
```

```
case "Monday":  
    print("Start of the week!")  
case "Saturday" | "Sunday":  
    print("Weekend vibes!")  
case _:  
    print("Midweek hustle!")
```

Start of the week!

In [109...]

```
day = "Thursday"  
  
match day:  
    case "Monday":  
        print("Start of the week!")  
    case "Saturday" | "Sunday":  
        print("Weekend vibes!")  
    case _:  
        print("Midweek hustle!")
```

Midweek hustle!

In [110...]

```
day = "Tuesday"  
  
match day:  
    case "Monday":  
        print("Start of the week!")  
    case "Saturday" | "Sunday":  
        print("Weekend vibes!")  
    case _:  
        print("Midweek hustle!")
```

Midweek hustle!

In [111...]

```
day = "Monday"

match day:
    case "Monday":
        print("Start of the week!")
    case "Saturday" | "Sunday":
        print("Weekend vibes!")
    case _:
        print("Midweek hustle!")
```

Start of the week!

In []: