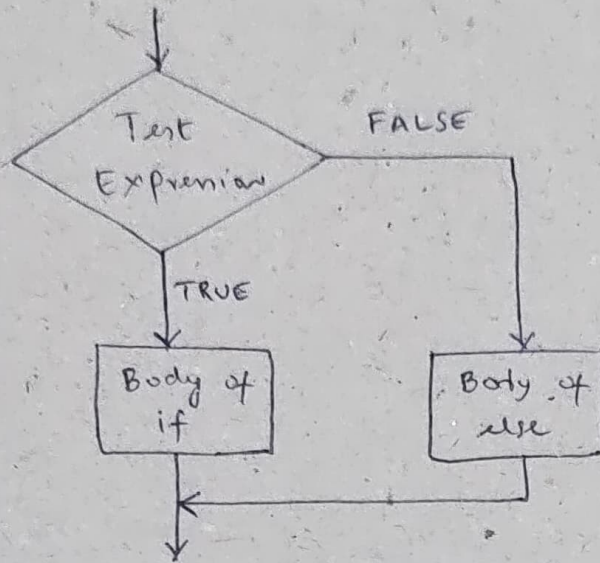


Control Flow Statements

Control flow refers to the order in which statements are executed in the code.



if else

```
age = int(input())
```

```
if age > 18 :
```

```
    print ("You're eligible to drive Car")
```

```
    print ("Drive slowly")
```

```
else :
```

```
    print ("Wait till you turn 18")
```

17

wait till you turn 18

18

wait till you turn 18

19

You're eligible to drive Car

Drive slowly.

Nested if else

```
age = int(input())
```

```
if age > 18:
```

```
    if age >= 65:
```

```
        print("Take rest")
```

```
    else:
```

```
        print("You are eligible to drive car")
```

```
        print("Drive slowly")
```

```
else:
```

```
    print("wait till you turn 18")
```

13

wait till you turn 18

24

You are eligible to drive car

Drive slowly

70.

Take rest

if, elif and else

The elif condition is used to include multiple conditional expressions after the if condition.

```
num = int(input())
```

```
if num > 0:
```

```
    print("Positive")
```

```
if num == 0:
```

```
    print("Zero")
```

```
else:
```

```
    print("Negative")
```

12

Positive

Negative

X

```
num = int(input())
```

```
if num > 0:
```

```
    print("positive")
```

```
elif num == 0:
```

```
    print("Zero")
```

```
else:
```

```
    print("Negative")
```

12

Positive

0

Zero

-3

Negative

✓

Challenge

① Find maximum in a list

marks = [90, 80, 100, 50, 80, 95]

highest = marks[0]

for i in marks:

if i > highest:

highest = i

print(highest)

100

Aliter:

max(marks)

100

min(marks)

30

② Grading System.

A - Marks equal and above 90 → 90 - 100
B - Marks equal to 80 and less than 90 → 80 - 89
C - Marks equal to 70 and less than 80 → 70 - 79
D - Marks equal to 60 and less than 70 → 60 - 69
E - Marks less than 60 → 0 - 59

mark = int(input())

if mark >= 90 and mark <= 100:

print("A grade")

elif mark >= 80 and mark < 90:

print("B grade")

elif mark >= 70 and mark < 80:

print("C grade")

elif mark >= 60 and mark < 70:

print("D grade")

elif mark < 60:

print("E grade")

else:

print("Invalid")

95

A grade

82

B grade

75

C grade

68

D grade

45

E grade

120

Invalid

③ Fizz Buzz

Problem description:

Given a positive integer A , return an array of strings with all the integers from 1 to N . But for multiples of 3, the array should have "Fizz" instead of the number. And for the multiples of 5, the array should have "Buzz" instead of the number. Also for the numbers which are multiples of both 3 and 5, the array should have "Fizz Buzz" instead of the number.

Problem constraints:

$$1 \leq A \leq 500000$$

Input Format:

The first argument has the integer A

Output Format:

Return an array of string

Class Solution:

```
def fizzBuzz(self, A):  
    result = []  
    for i in range(1, A+1):  
        if i % 3 == 0 and i % 5 == 0:  
            result.append("FizzBuzz")  
        elif i % 3 == 0:  
            result.append("Fizz")  
        elif i % 5 == 0:  
            result.append("Buzz")  
        else:  
            result.append(str(i))  
    return result
```

solution = Solution()

A = 16

print(solution.fizzBuzz(A))

['1', '2', 'Fizz', '4', 'Buzz', 'Fizz', '7', '8', 'Fizz', 'Buzz',
'11', 'Fizz', '13', '14', 'FizzBuzz', '16']

④ Leap Year

Problem description:

Given an integer A representing a year. Return 1 if it is a leap year, else return 0.

A year is a leap year if

- the year is multiple of 400 (or)
- the year is multiple of 4 and not multiple of 100

Problem constraints:

$$1 \leq A \leq 10^9$$

Input Format:

First and only argument is an integer A

Output Format:

Return 1 if it is a leap year else return 0

Class Solution:

```
def solve(self, A):
```

```
    if (A % 100 == 0) or (A % 4 == 0 and A % 100 != 0):
```

```
        return 1
```

```
    else:
```

```
        return 0
```

```
solution = Solution()
```

```
print(solution.solve(2020))
```

```
print(solution.solve(1999))
```

```
!
```

```
0
```

⑤ In what Boolean value of statement in the if condition does the if statement work?

True

⑥ Can we write an else statement without an if statement?

No

⑦ How many elif statements can we use after the if statement

More than 2