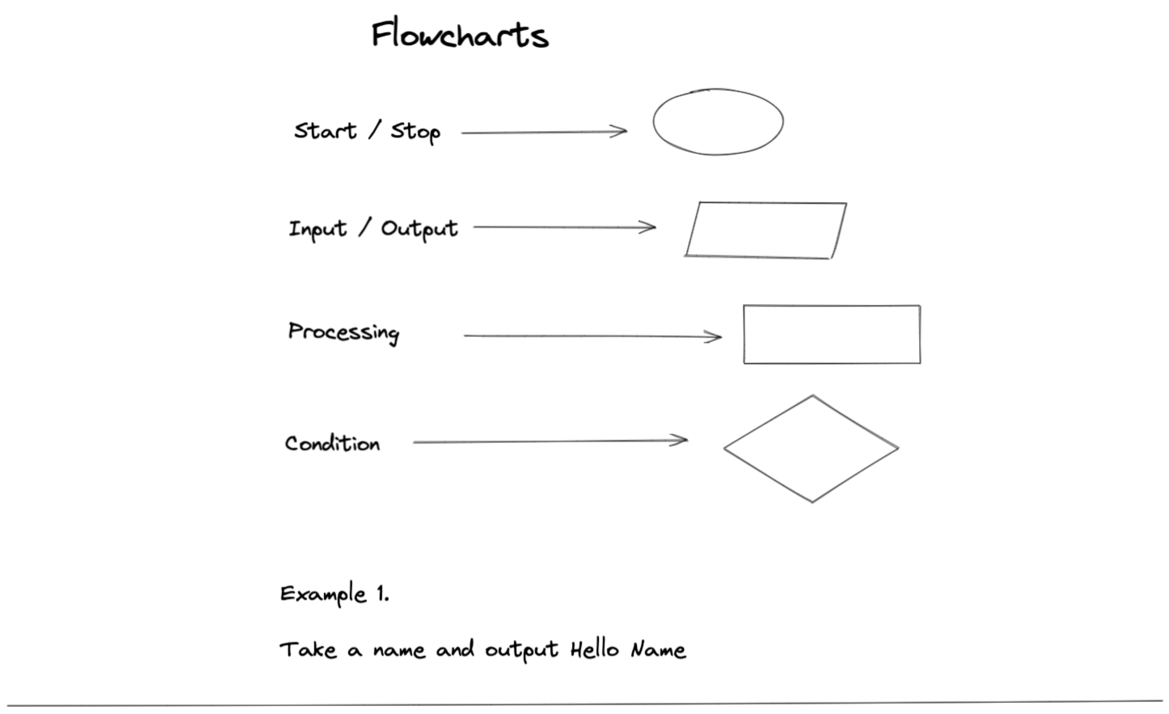
Flow of Program - Flowcharts & Pseudocode

Created	@September 4, 2022 7:28 AM
Class	
Type	Lecture
Materials	https://www.youtube.com/watch?v=IhELGQAV4gg&list=PL9gnSGHSqcnr_DxHsP7AW9ftq0AtAyYqJ&index=6
Reviewed	□

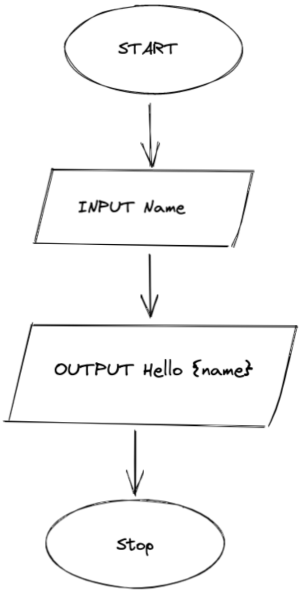
Flowcharts



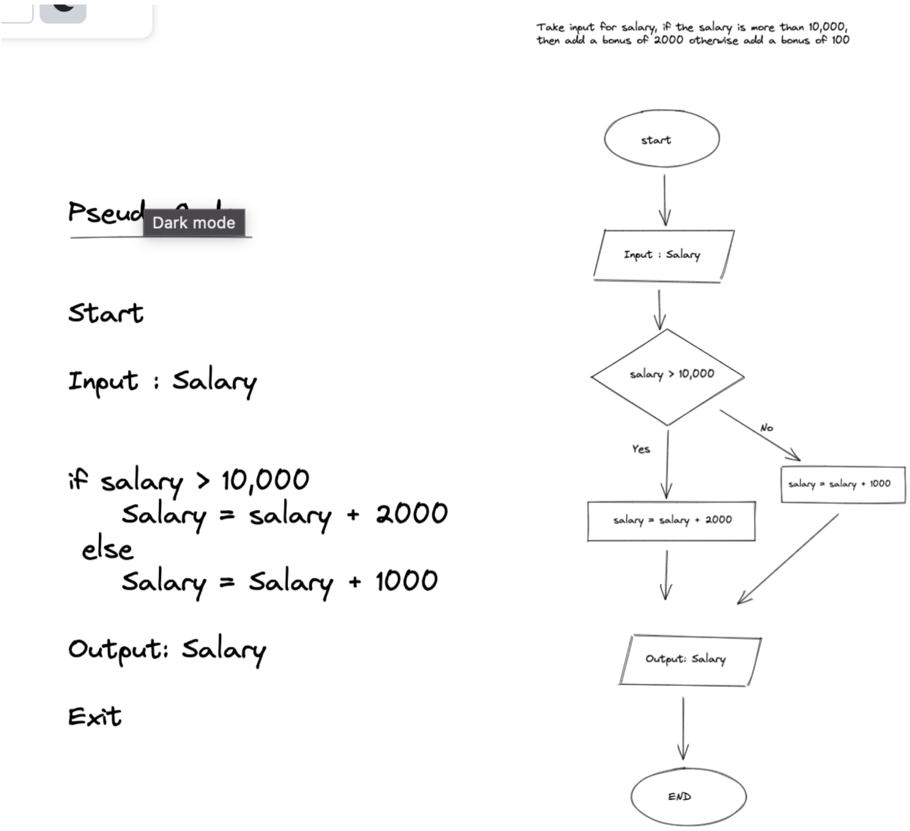
Example 1: Take a name and output Hello name

Example 1.

Take a name and output Hello Name



Example 2: Take input for salary, if the salary is more than 10,000, then add a bonus of 2000 otherwise add a bonus of 100

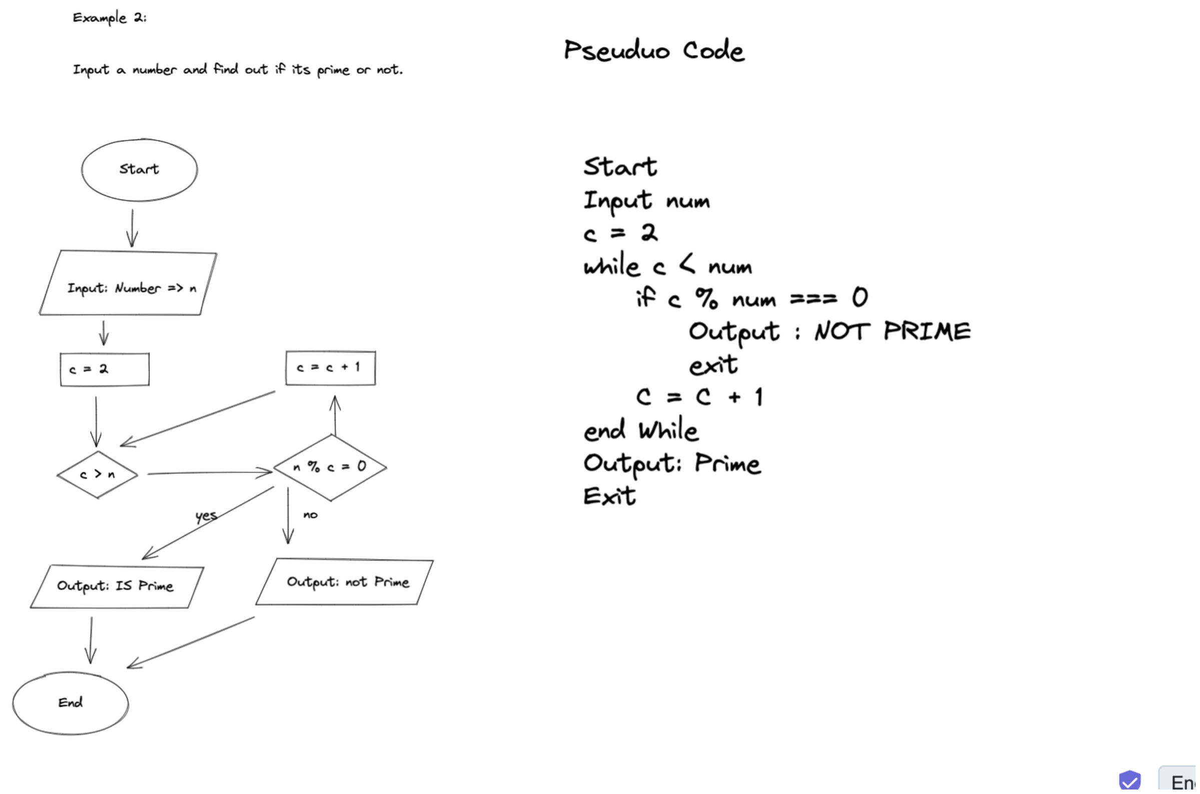


Take input for salary, if the salary is more than 10,000,
then add a bonus of 2000 otherwise add a bonus of 100

Pseud

```
Start

Input : Salary


if salary > 10,000
    Salary = salary + 2000
 else
    Salary = Salary + 1000

Output: Salary

Exit
```

Example 3: Input a number and find out if its prime or not.



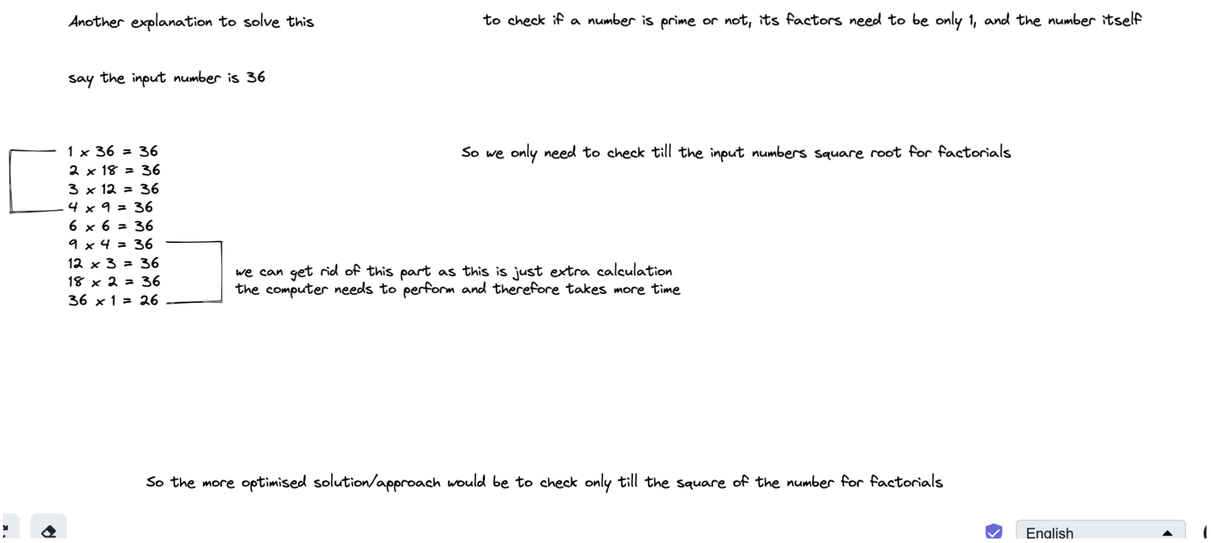
Example 2:

Input a number and find out if its prime or not.

Pseudo Code

```
Start
Input num
c = 2
while c < num
     if c % num === 0
          Output : NOT PRIME
          exit
     C = C + 1
end While
Output: Prime
Exit
```

More optimised solution of the same question



Another explanation to solve this

to check if a number is prime or not, its factors need to be only 1, and the number itself

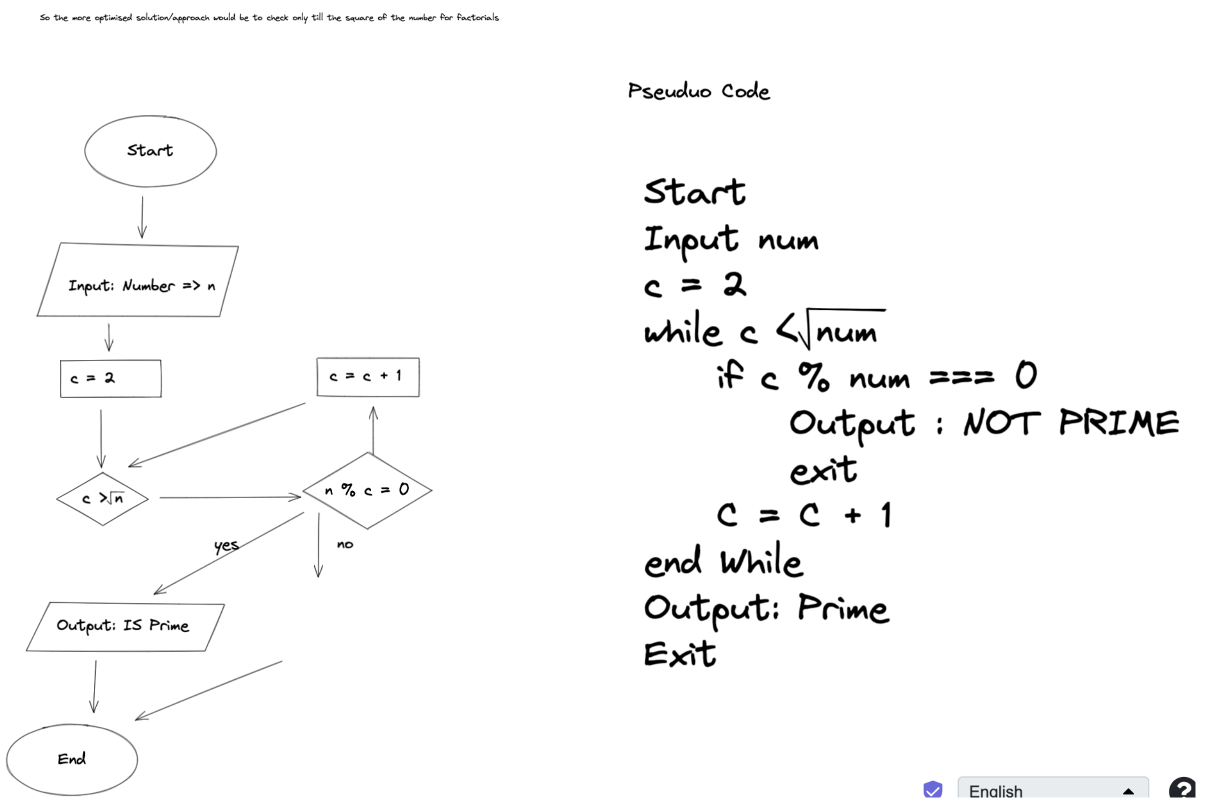
say the input number is 36

1 x 36 = 36
2 x 18 = 36
3 x 12 = 36
4 x 9 = 36
6 x 6 = 36
9 x 4 = 36
12 x 3 = 36
18 x 2 = 36
36 x 1 = 26

So we only need to check till the input numbers square root for factorials

we can get rid of this part as this is just extra calculation
the computer needs to perform and therefore takes more time

So the more optimised solution/approach would be to check only till the square of the number for factorials



So the more optimised solution/approach would be to check only till the square of the number for factorials

Pseuduo Code

```
Start
Input num
c = 2
while c <$\sqrt{num}$
     if c % num === 0
          Output : NOT PRIME
          exit
     C = C + 1
end While
Output: Prime
Exit
```