

→ 4+ → 3 as Accessing →

What is Data Structures and Algorithms

It's a way of storing and organizing data in the memory for efficient processing.

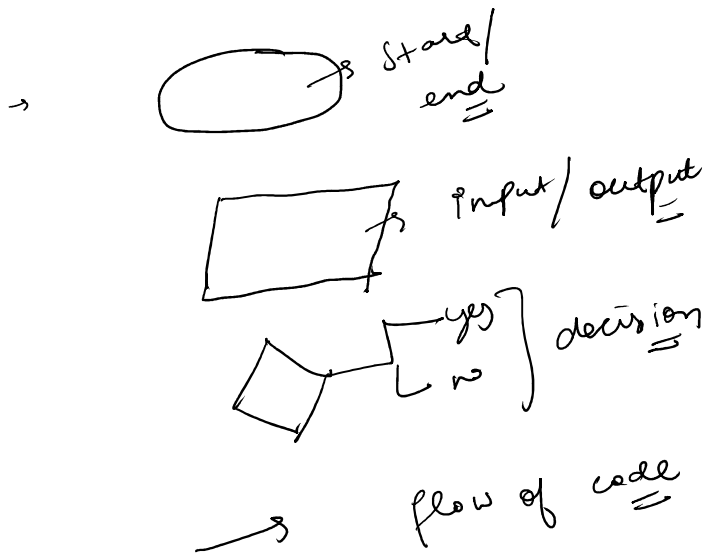
✓ Algorithm → Step by step instructions to solve a problem

Our goal is To write the most efficient algorithm

Flow charts → Visual representations of algorithm

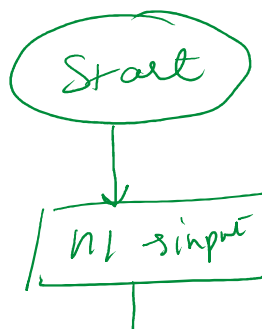
↓

def 1

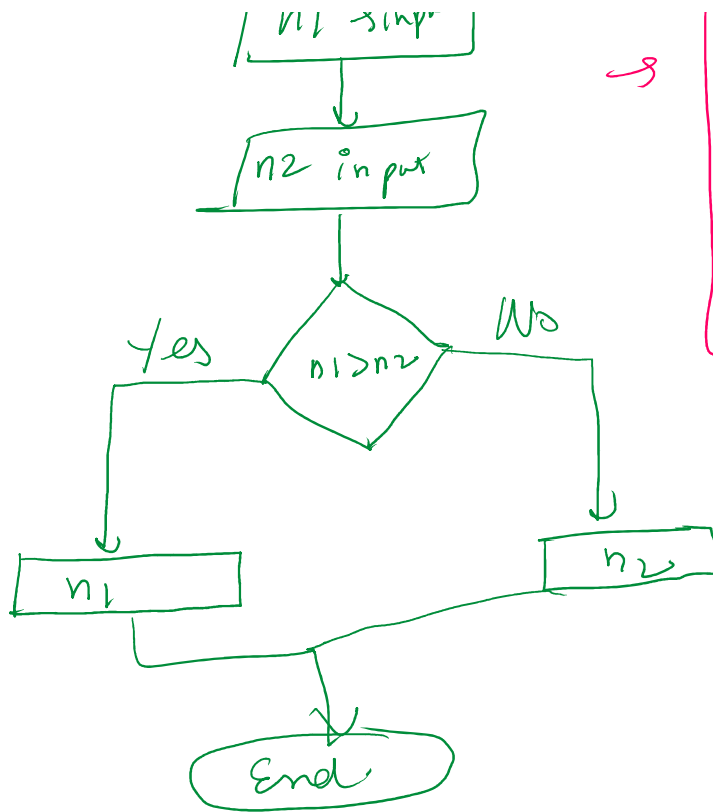


a) program to find bigger number in two input numbers.

0. Start
1. num1 as input
2. num2 as input
3. if num1 > num2 → num1
→ else num2
4. End



→ n1, n2 → input
[f: ...]



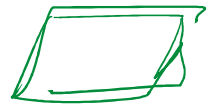
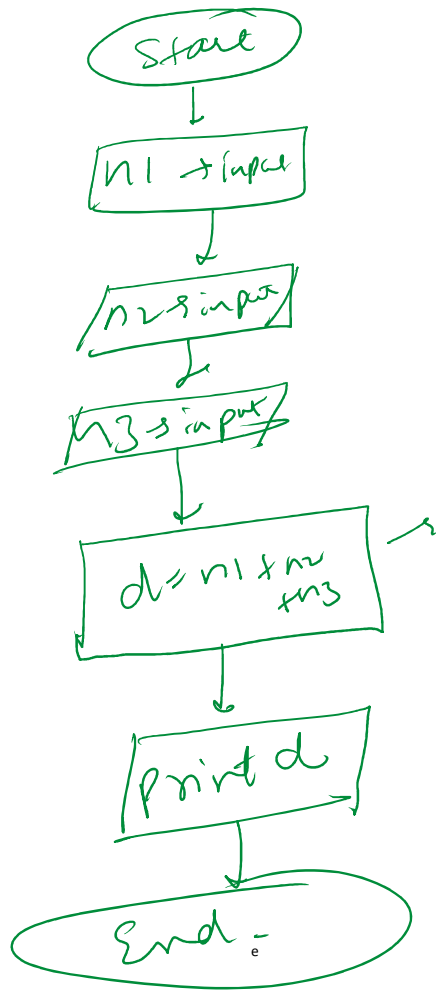
→ [F: $n1 > n2$
print n]
ELSE:
n2

Q) Draw a flowchart to add 3 num bers

1. Start
2. num1 as input
3. num 2 as input
4. num3 as input
5. add num1, num2 and num3 and store it in a ans variable

6. print ans

7. End



process / calculations

Pseudocode →



↓
 way of writing algorithm such that it can be easily translated into actual code

→ Half Baked Pseudocode →

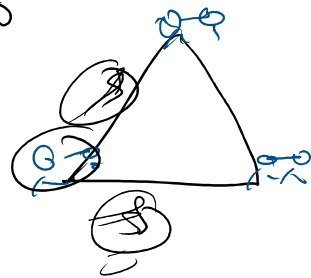
Pseudocode to add 3 numbers

Pseudocode to add 3 numbers

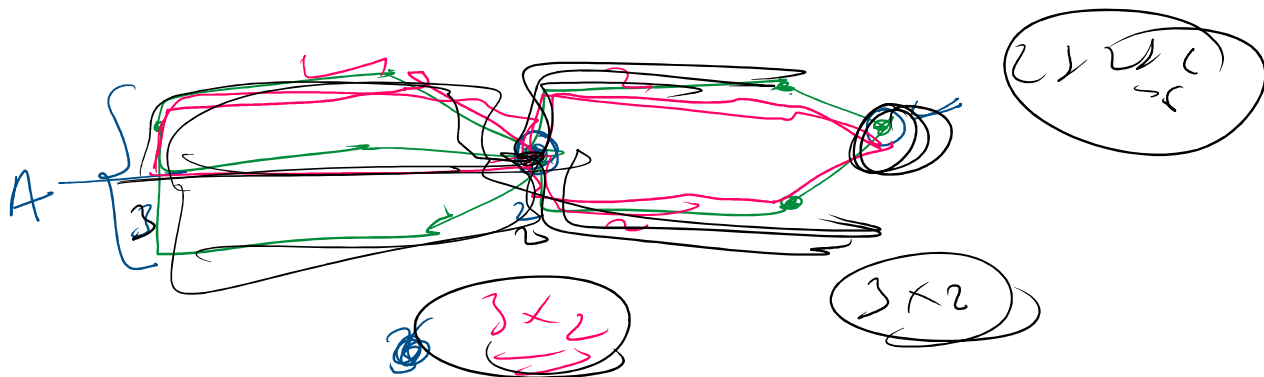
```
int n1 → input
int n2 → input
int n3 → input
int d = n1 + n2 + n3
print (d);
```

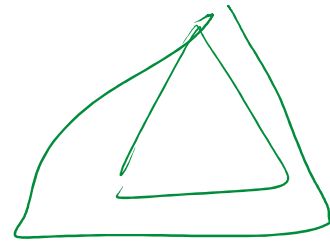
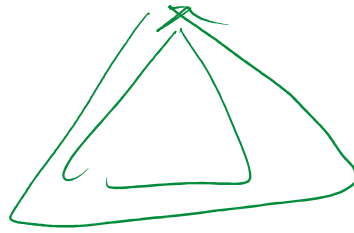
Some puzzles

(P1) Three ants are sitting on 3 corners of a triangle. They choose one direction randomly and start moving in that direction.



What is the probability that any two of them collide?





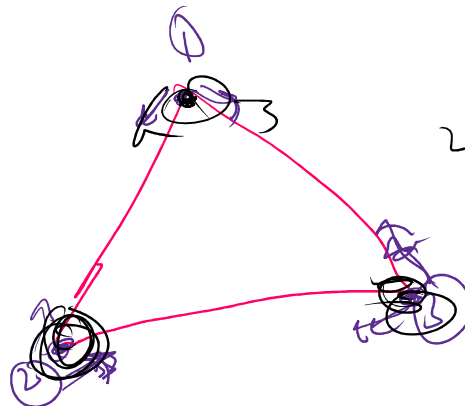
$$1 - 0.2 = 0.8$$

$1 - \text{Nah}$

$$\frac{2}{2+2+2}$$

$$1 - \frac{2}{8} = \frac{6}{8} = \frac{3}{4}$$

A D F
 A D E
 A C F
 A C E
 B C E
 B C F
 B D F
 B D E



$$2 \times 2 + 2$$

