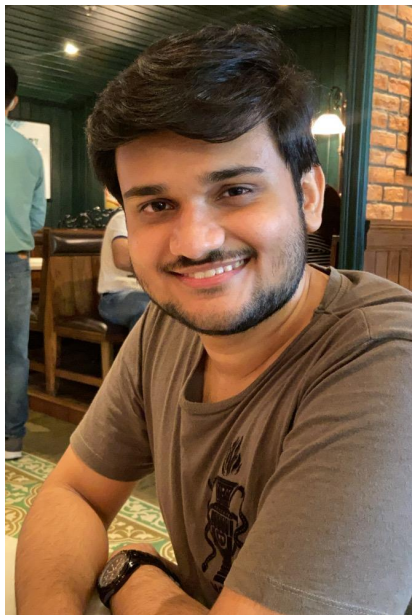# Arrays

With Sanket Singh

Let's crack Competitive Programming together!
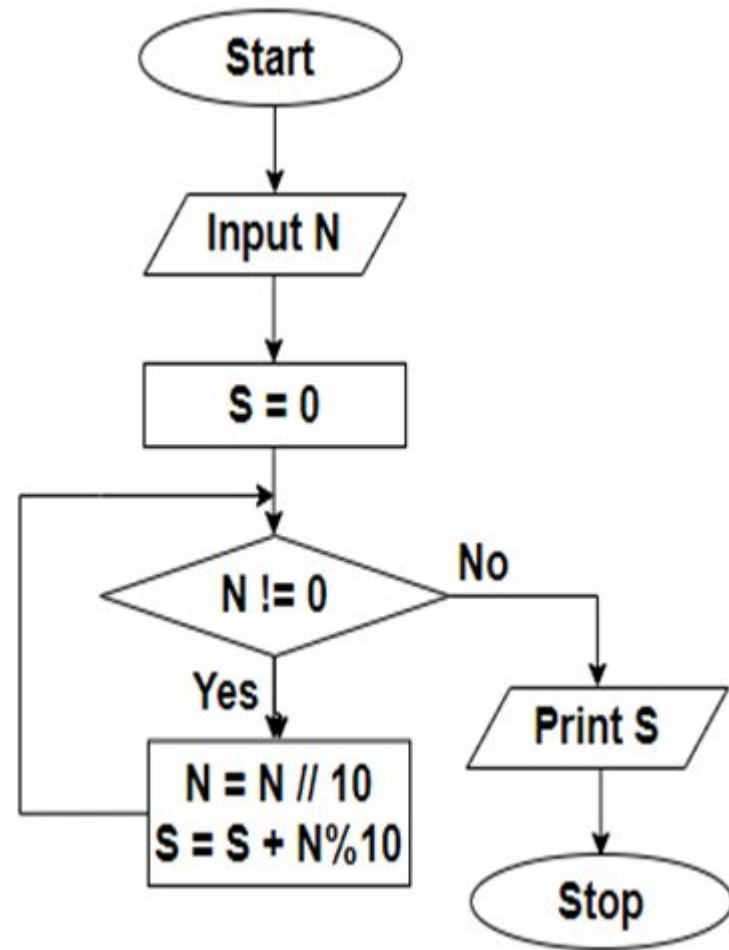
Sanket Singh

- Software Development Engineer @ **LinkedIn**
- Former Software Developer @ **Interviewbit/Scaler**
- Former Product Engineer @ **Coding Blocks**
- Cracked **Google** Summer Of Code 2019 under **Harvard University**
- Offers From **Linkedin, Sprinklr, Dunzo, Works Application(Singapore), Interviewbit, Grofers, Splash Learn**
- **No. 1** Educator in Unacademy Competitive Programming Track
- Former Research Intern @ **ISRO (Indian Space Research Organisation)**
- Taught 7,500+ programmers in Data Structures, Algorithms and Fundamentals of Computer Science
- Got **Rank 1** in Codechef Long Challenges
- Won **Infosys** Digital Make-a-thon

1. This flowchart is made to print the sum of all digits of one user given number. Will it satisfy our requirement?
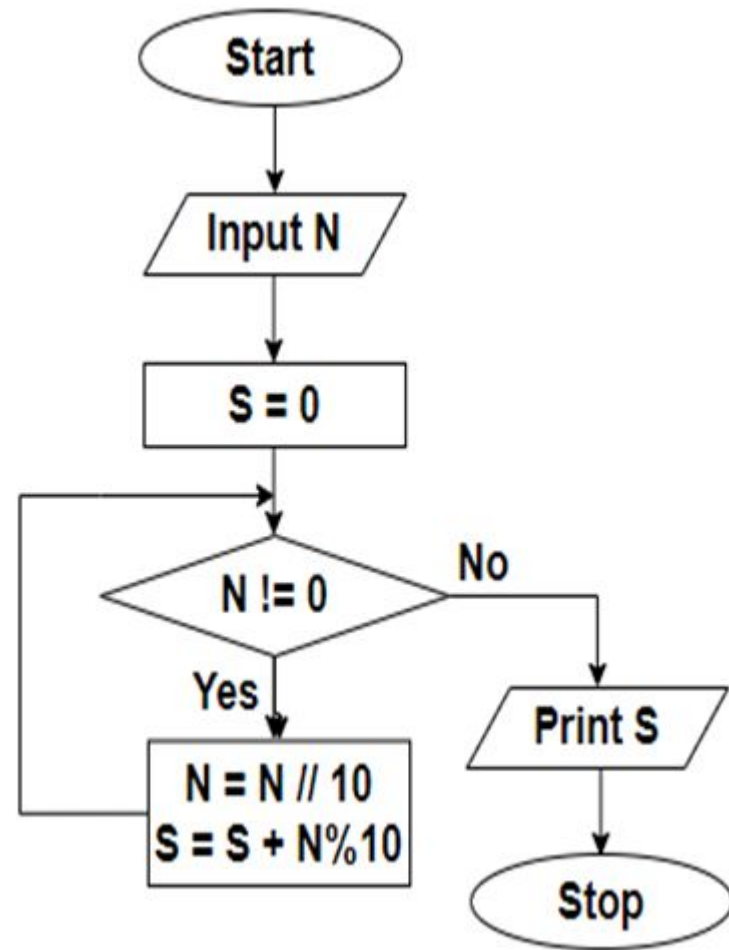
A. True
B. False

1. This flowchart is made to print the sum of all digits of one user given number. Will it satisfy our requirement?
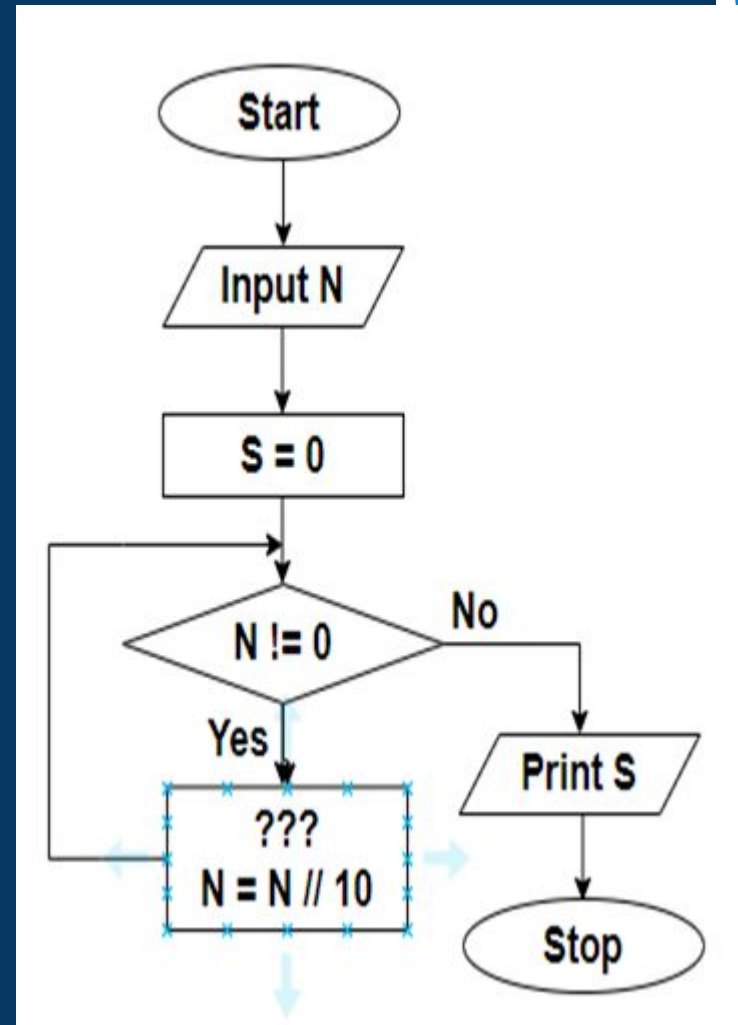
The flowchart will not add the digit at units place.

A. True
B. False

Start

Input N

S = 0

N != 0

No → Print S → Stop

Yes

N = N // 10
S = S + N%10

2. This flowchart prints the reverse of one user given number. Find the missing statement.

A. S = S % 10 + N * 10
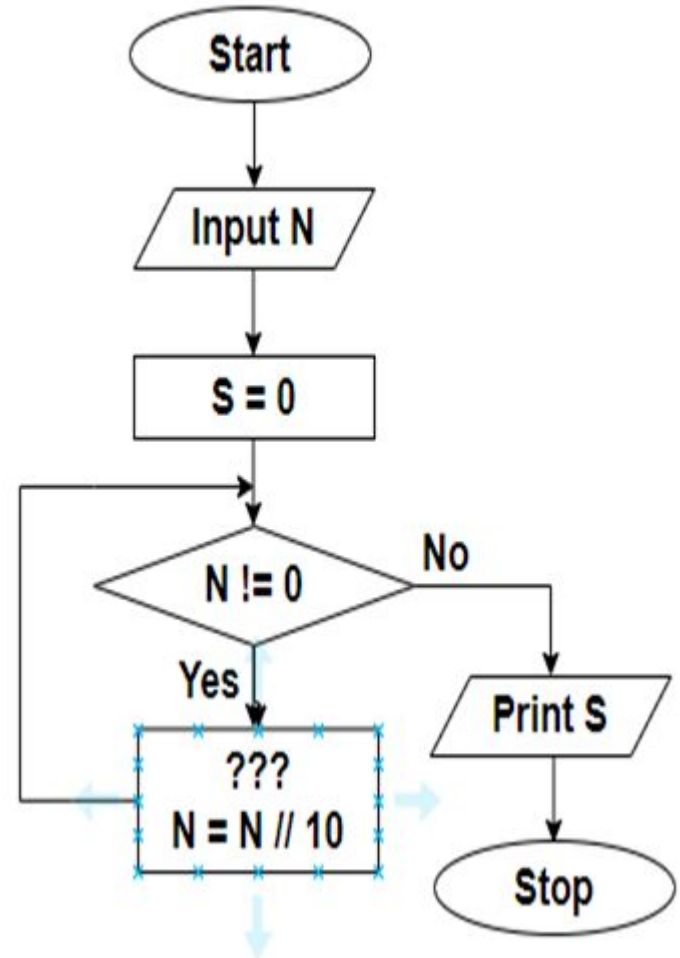B. S = S * 10 + N % 10
C. S = S * 10 + N // 10
D. None of the above

2. This flowchart prints the reverse of one user given number. Find the missing statement.

A. S = S % 10 + N * 10
B. S = S * 10 + N % 10
C. S = S * 10 + N // 10
D. None of the above

Start

Input N

S = 0

N != 0

No

Yes

???
N = N // 10

Print S

Stop

3. In this array, if each location occupies 4 Bytes of memory space, then what will be the total Byte count of this array?

0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0

A. 40 Bytes
B. 44 Bytes
C. 48 Bytes
D. None of the above

3. In this array if each location occupies 4 Bytes of memory space, then what will be total Byte count of this array?

0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0

A. 40 Bytes

B. 44 Bytes

C. 48 Bytes

D. None of the above

Since there are 11 blocks
so the total byte is
11*4 == 44

4. If x is a factor of N then N // x is another factor. As factors always occur in pairs, so all numbers will have even number of distinct factors. But there are some numbers where this is not True. These numbers are -
A. Even numbers
B. Odd numbers
C. Perfect Square numbers
D. Prime numbers

4. If x is a factor of N then N // x is another factor. As factors always occur in pairs, so all numbers will have even number of distinct factors. But there are some numbers where this is not True. These numbers are -

A. Even numbers

B. Odd numbers

C. Perfect Square numbers

D. Prime numbers

If distinct factors is not present even times it means one factor must satisfies N//x == x
Means x*x == N so it means N is perfect square number

5. In this array A, what will be the output if I execute the following print statement?

print A[A[A[4]]]

0	1	2	3	4	5	6	7	8	9	10
10	11	12	20	5	0	8	22	22	11	15

A. 15

B. 8

C. 22

D. 10

5. In this array A, what will be the output if I execute the following print statement?

print A[A[A[4]]]

0	1	2	3	4	5	6	7	8	9	10
10	11	12	20	5	0	8	22	22	11	15

A. 15

B. 8

A[4] = 5, A[A[4]] = 0,

C. 22

A[A [A [4]]] = A[0] = 10

D. 10

6. In this array A, what will be the output if we execute the following print statement?
print A[A[A[A[A[4]]]]]

0	1	2	3	4	5	6	7	8	9	10
6	2	6	7	9	8	10	11	12	0	50

A. 10

B. 11

C. 6

D. 50

6. In this array A, what will be the output if we execute the following print statement?
print A[A[A[A[A[4]]]]]

0	1	2	3	4	5	6	7	8	9	10
6	2	6	7	9	8	10	11	12	0	50

A. 10

B. 11

C. 6

D. 50

7. Expression to get the i-th last digit of a number is (Note : units digit is i = 1)

A. ith_last_ digit = (num // (10 ** (i+1))) % 10
B. ith_last_ digit = (num // (10 ** (i-1))) % 10
C. ith_last_ digit = (num // (10 ** i)) % 10
D. ith_last_ digit = (num // (10 % (i-1))) ** 10

7. Expression to get the ith last digit of a number is?

A. ith_last_ digit = num // (10 ** (i+1)) % 10
B. ith_last_ digit = num // (10 ** (i-1)) % 10
C. ith_last_ digit = num // (10 ** i) % 10
D. ith_last_ digit = num // (10 % (i-1)) ** 10

Y = num//(10**(i-1)) remove all the digits before the ith digit
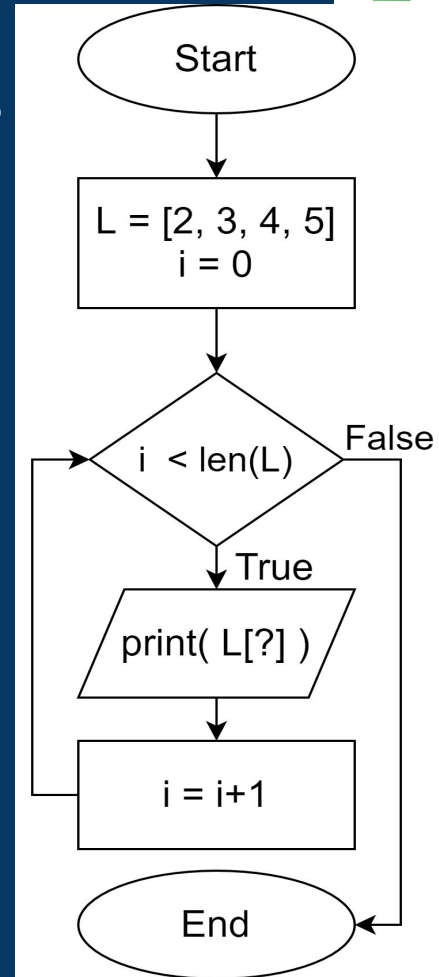Y%10 gives the last digit of Y means ith digit of num.

8. By what value ? should be replaced so that value is printed in reverse order? Note: len(L) gives the number of elements in the array.

A. i
B. i+1
C. len(L)-i
D. len(L)-i-1

8. By what value ? should be replaced so that value is printed in reverse order?
Note: len(L) gives the number of elements in the array.
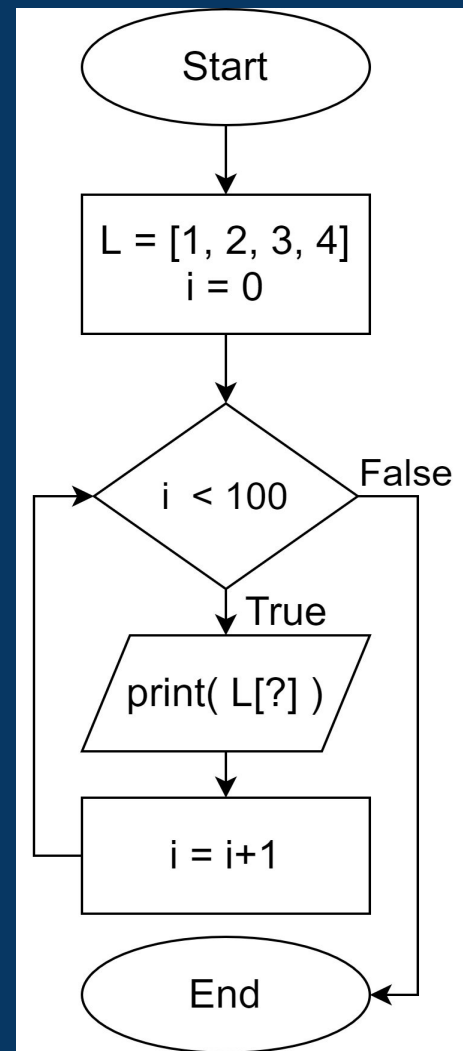
A. i
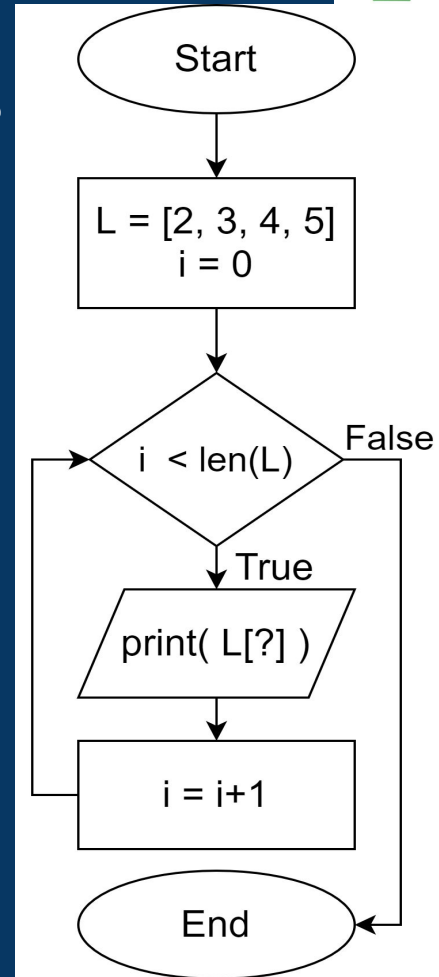
B. i+1

C. len(L)-i

D. len(L)-i-1

9. By what condition ? should be replaced so that flowchart prints a sequence like 1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4, 1…..100$_{times}$?
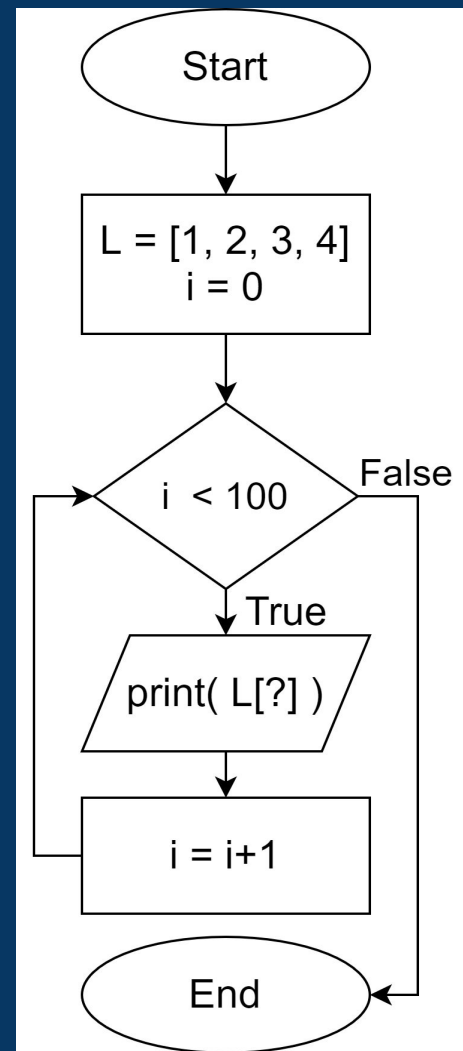(Note: len(L) gives the number of elements in the array)

A. i
B. i-len(L)
C. (i+1)%len(L)
D. i%len(L)

9. By what condition ? should be replaced so that flowchart prints a sequence like 1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4…..100$_{times}$?
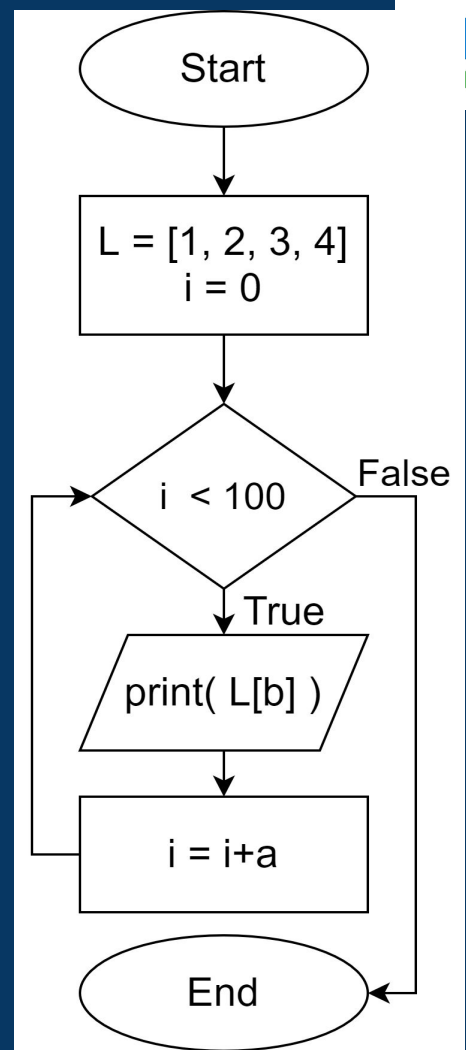(Note: len(L) gives the number of elements in the array)

A. i
B. i-len(L)
C. (i+1)%len(L)
D. i%len(L)

Start

L = [1, 2, 3, 4]
i = 0

i < 100 — False

True

print(L[?])

i = i+1

End

10. By what value a and b should be replaced so that flowchart prints the sequence 1, 3, 1, 3, 1, 3..... up to 17 terms?

A. a = 2, b = i
B. a = 2, b = i % len (L)
C. a = 6, b = i % len (L)
D. None of these

10. By what value a and b should
be replaced so that flowchart prints
the sequence 1, 3, 1, 3, 1, 3.....
up to 17 terms?

A. a = 2, b = i
B. a = 2, b = i % len (L)
C. a = 6, b = i % len (L)
D. None of these

Start

L = [1, 2, 3, 4]
i = 0

i < 100

False

True

print(L[b])

i = i+a

End