Loops

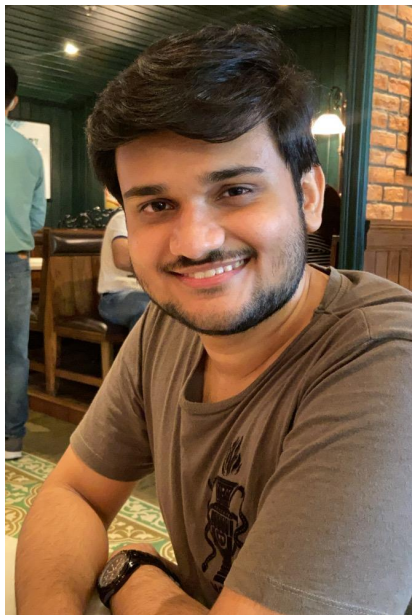**With Sanket Singh**

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. Do we use any box specifically for loops?

A. Yes
B. No

1. Do we use any box specifically for loops?

A. Yes
B. No

We do not use any specific box
to indicate loops in a flowchart.

2. Can a flowchart be made for a program which runs for a finite amount of time and contains loops without conditional boxes?

A. Yes
B. No

2. Can a flowchart be made for a program which runs for a finite amount of time and contains loops without conditional boxes?
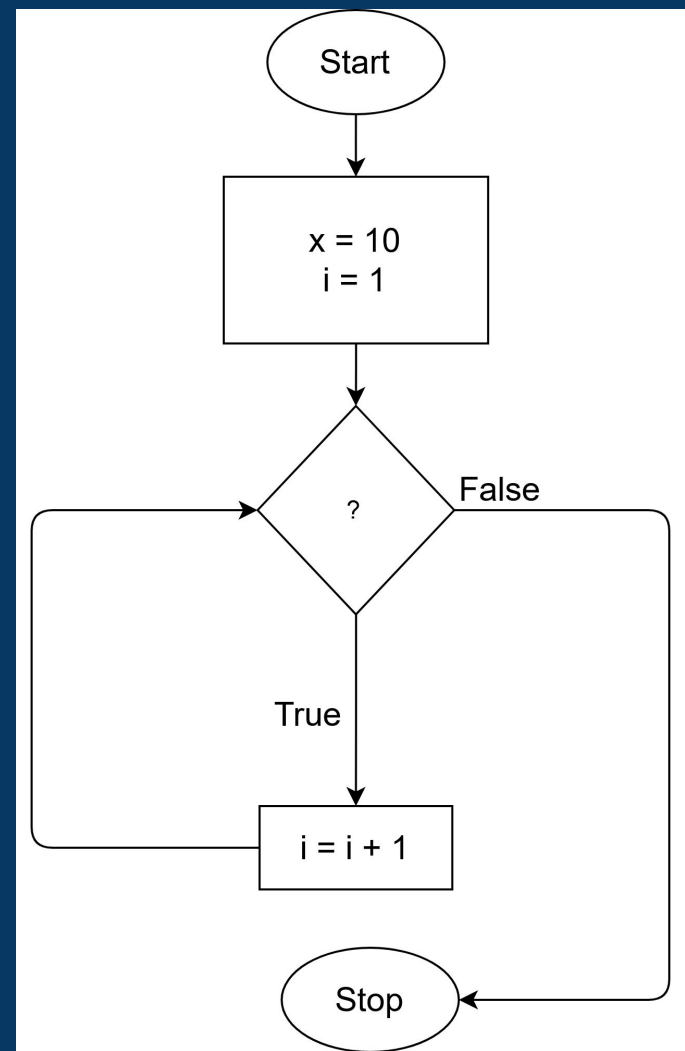
A. Yes
B. No

There must be a condition present to stop the loop

3. If the following flowchart contains an infinite loop then ? can be
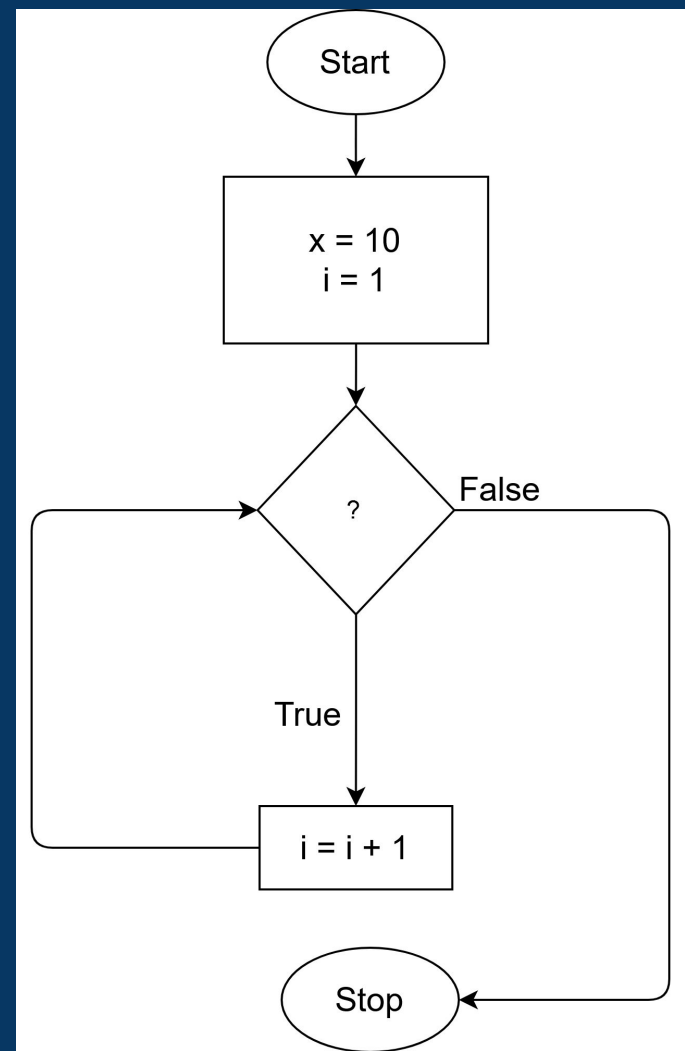
A. X > i
B. X < i
C. X%i == 0
D. X > 0

3. If the following flowchart contains an infinite loop then ? can be

A. X > i
B. X < i
C. X%i == 0
D. X > 0

4. Which of the following boxes are required for doing the same operation more than once using loops?
(loops must run for finite time)

A. Conditionals, processing
B. Processing, printing

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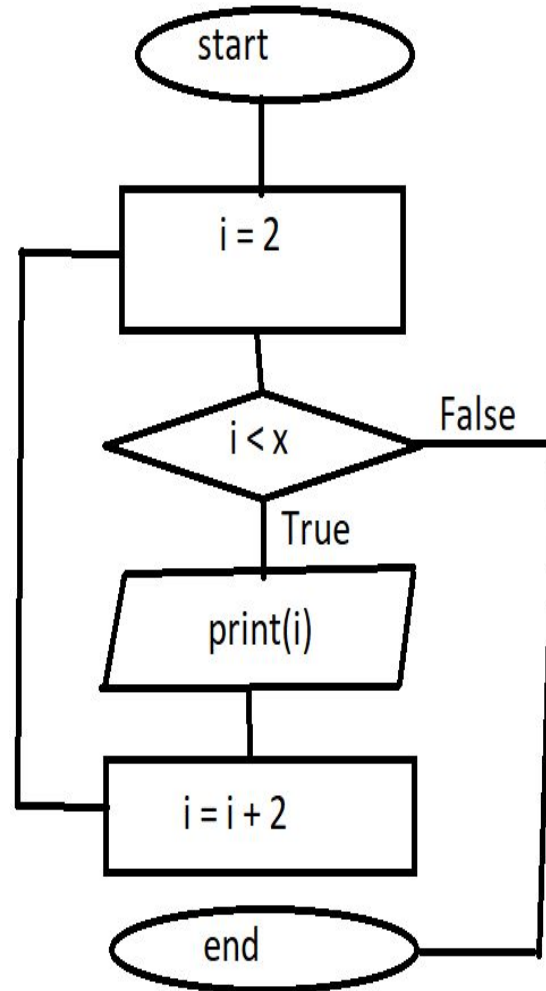(loops must run for finite time)

There must be condition present for running the loop for the finite time and also by processing we need to change our condition so that after sometime condition going to false.

A. Conditionals, processing
B. Processing, printing

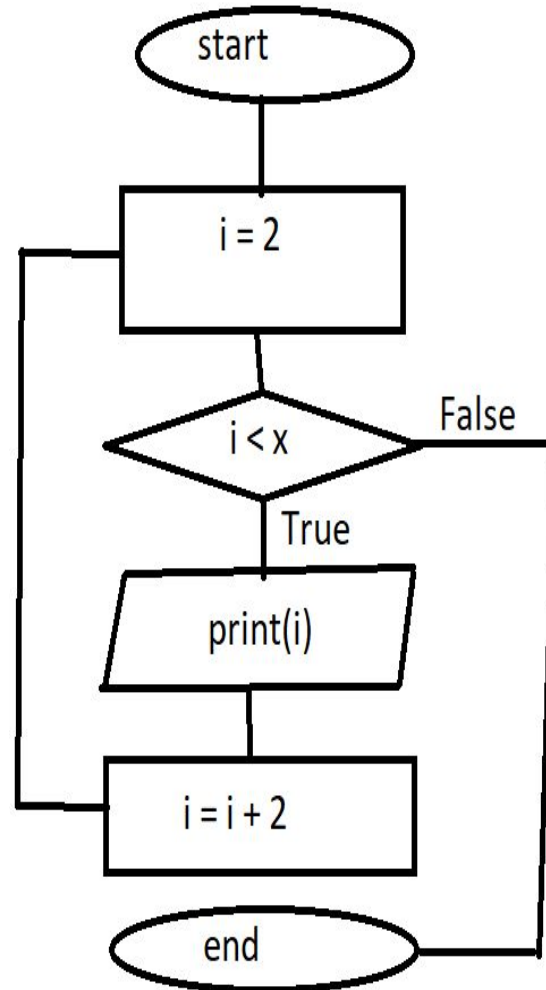5. What is the value x in the flowchart to print the first five even digits (starting from 2)?

A. 14
B. 10
C. 12
D. 8

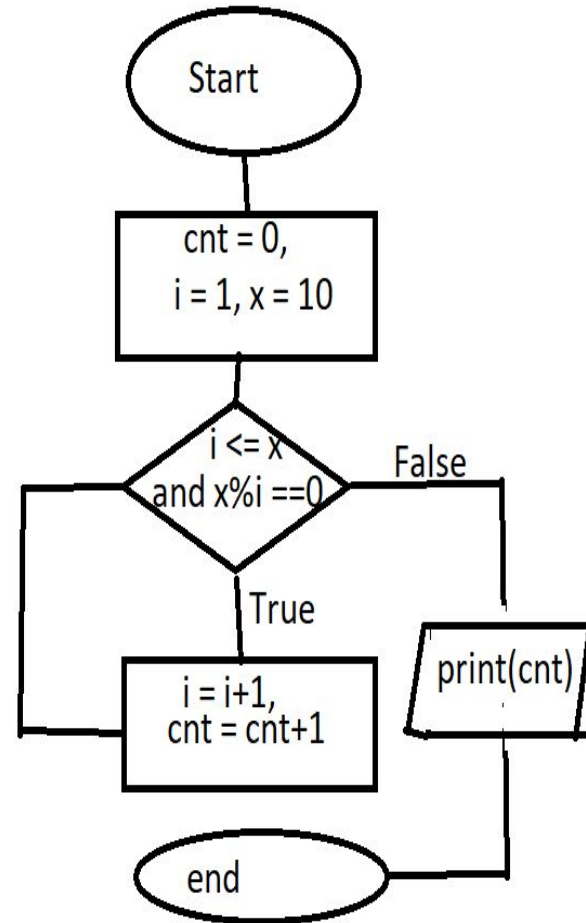# 5. What is the value x in the flowchart to print the first five even digits (starting from 2)?

A. 14

B. 10

C. 12

D. 8

Since i < x so i is only go to 10 as i go to 12 condition going to false

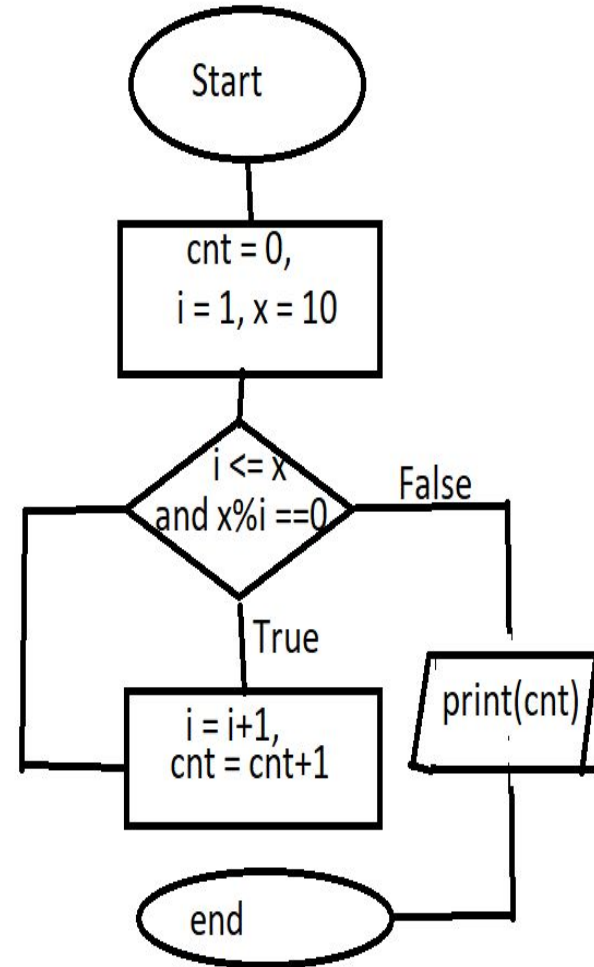# 6. Does the following flowchart print the number of divisors of x for x = 10?

A. Yes
B. No

Start

cnt = 0,
i = 1, x = 10

i <= x
and x%i ==0

False

True

i = i+1,
cnt = cnt+1

print(cnt)

end

6. Does the following flowchart print the number of divisors of x for x = 10?

Program stop as i == 3 so it does not count 5 and 10.

A. Yes
B. No

7. What is the minimum number of conditional boxes needed to have a loop in a flowchart?

A. 0
B. 1
C. 2
D. 3

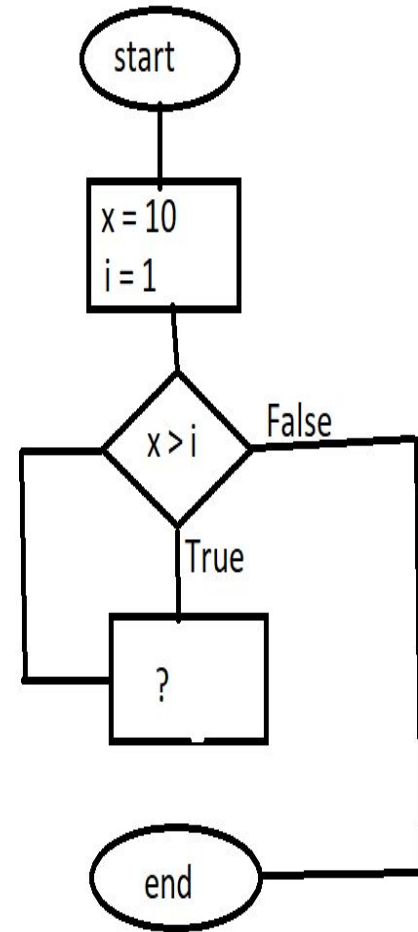7. What is the minimum number of conditional boxes needed to have a loop in a flowchart?

A. 0
B. 1
C. 2
D. 3

At least one condition is required to stop an infinite loop

8. By what condition **?** should be replaced so that the loop runs for a finite amount of time?
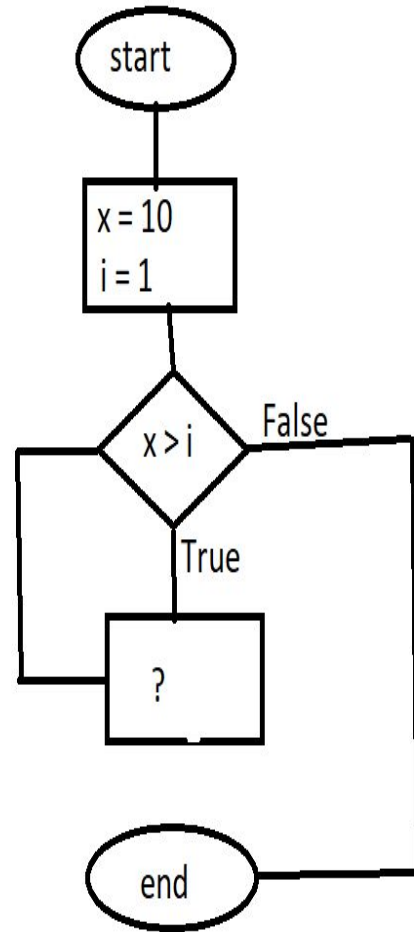
A. i = i-1
B. i = i/2
C. x = x-1
D. x = x+1

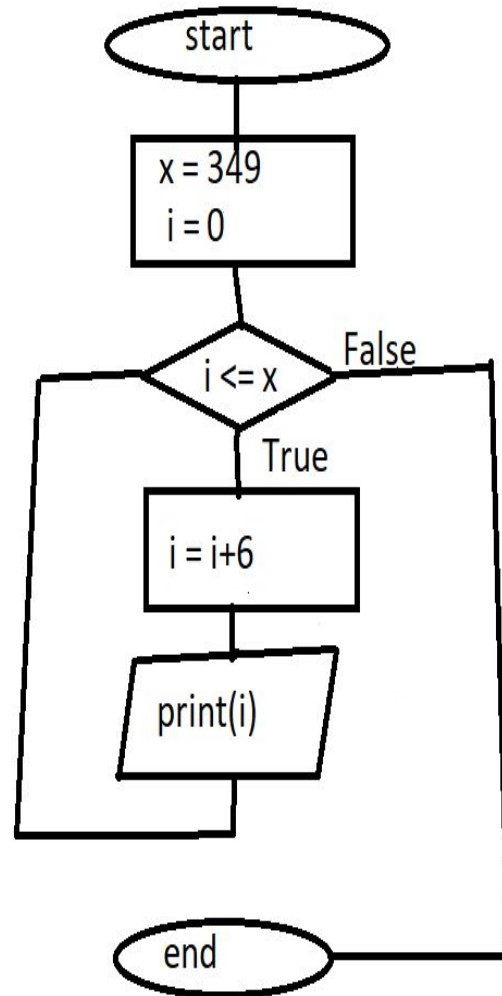# 8. By what condition ? should be replaced so that the loop runs for a finite amount of time?

A. i = i-1
B. i = i/2
C. x = x-1
D. x = x+1

If we replace ? by option C then after 9 times x become 1 so 1 > 1 this condition going to false

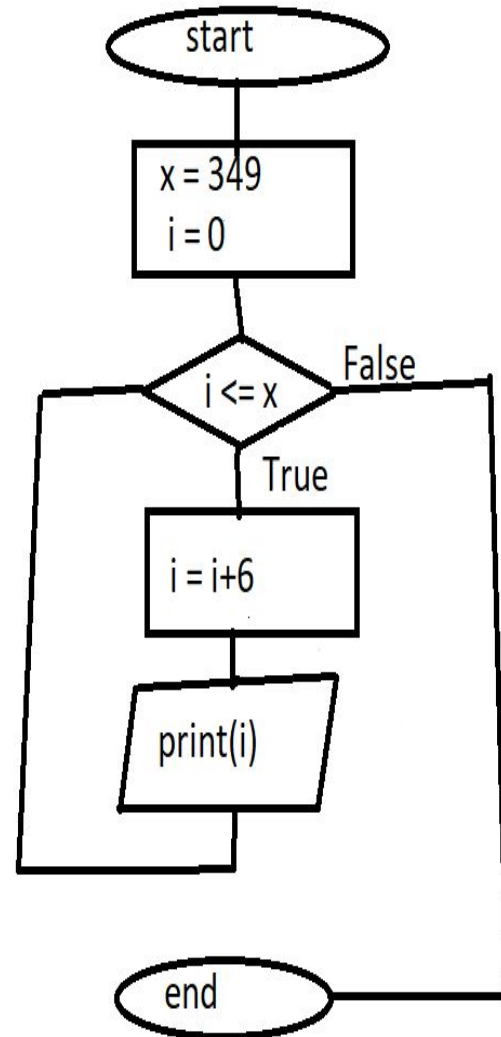9. If "i" is printed while running the following flowchart then which of the following options is true?

A. i%4 == 0
B. i%2 == 0
C. i%5 == 0
D. i%12 == 0

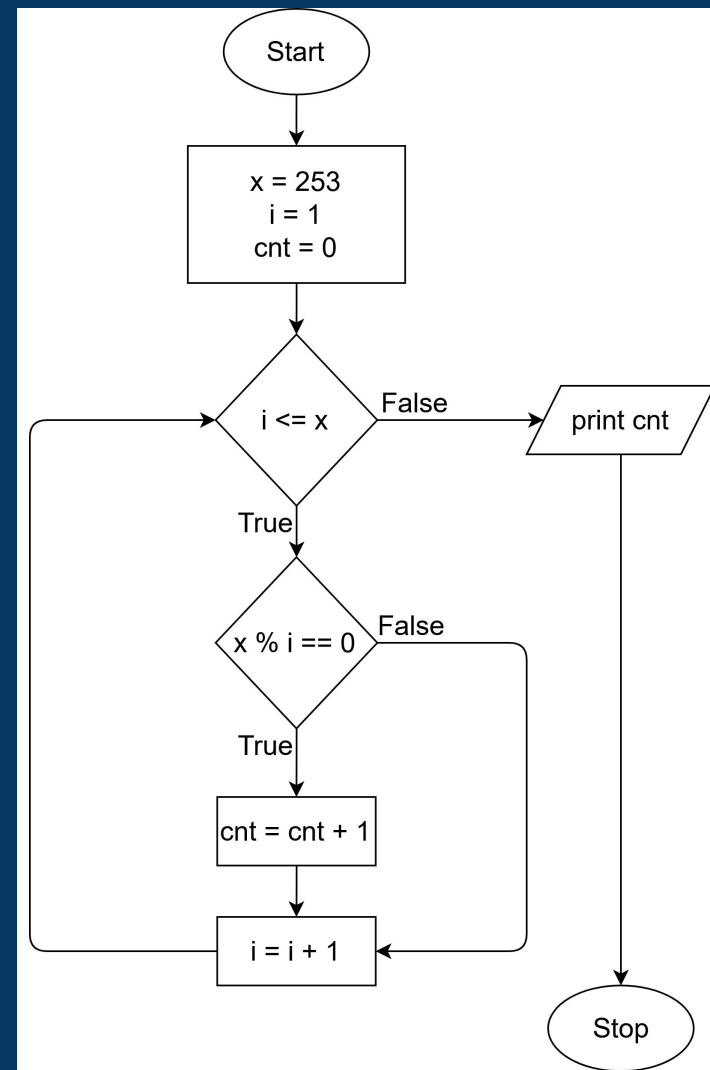9. If "**i**" is printed while running the following flowchart then which of the following options is true?

Since the printed number is divisible by 6 so the numbers must be divisible by 2

A. i%4 == 0
B. i%2 == 0
C. i%5 == 0
D. i%12 == 0

10. What is the output of the following flowchart?

A. Number of divisors of 253
B. Number of prime numbers less than 253
C. Number of odd numbers less than 253
D. Number of even numbers less than 253

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