

The background features a dark blue gradient with faint, light blue geometric patterns. On the left side, there are several concentric circles and arcs, some with degree markings ranging from 40 to 260. Arrows indicate a clockwise direction of movement. The overall aesthetic is technical and modern.

# FUNDAMENTALS OF PROGRAMMING

PART III

# CONTENTS

- Understanding Problem
- Solving Using Algorithm
- Draw Flowchart Accordingly



- Assignment

# UNDERSTANDING PROBLEM

KNOW THE PROBLEM, FEEL THE SOLVE



# UNDERSTANDING PROBLEM

WRITE A PROGRAM TO SHOW THE SUM OF TWO NUMBERS.



5 and 7

# UNDERSTANDING PROBLEM

WRITE A PROGRAM TO SHOW THE SUM OF TWO NUMBERS.

$$5 + 7$$

need 2 numbers

$$\boxed{\text{num1}} + \boxed{\text{num2}}$$

need to show — the sum

# ALGORITHM

WRITE A PROGRAM TO SHOW THE SUM OF TWO NUMBERS.

⑫ Show the result/sum/ Display the result/ Display sum ✓

① Start

⑬ End Stop ✓

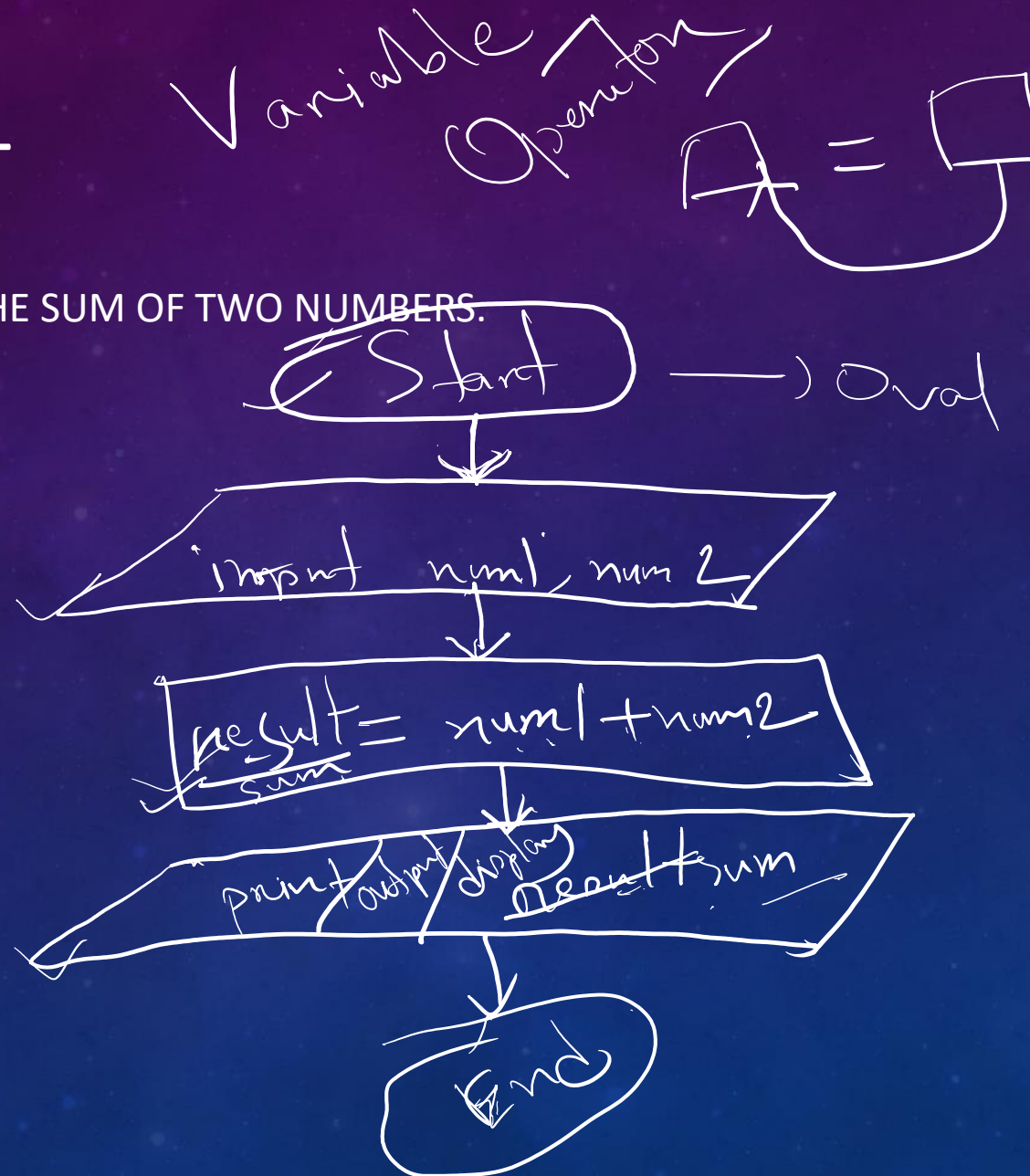
② Take two numbers get two numbers/  
as input / input num1, num2

④ Add these numbers / Add two numbers and store result  
sum /  $\boxed{\text{sum} = \text{num1} + \text{num2}}$

Add num1 + num2

# FLOWCHART

WRITE A PROGRAM TO SHOW THE SUM OF TWO NUMBERS.







# UNDERSTANDING PROBLEM

WRITE A PROGRAM TO COMPUTE THE AREA OF A RECTANGLE.



# UNDERSTANDING PROBLEM

WRITE A PROGRAM TO COMPUTE THE AREA OF A RECTANGLE.

$height * width$

input  $\rightarrow$  height, width  
 $area = height * width$

output/result  $\rightarrow$  area

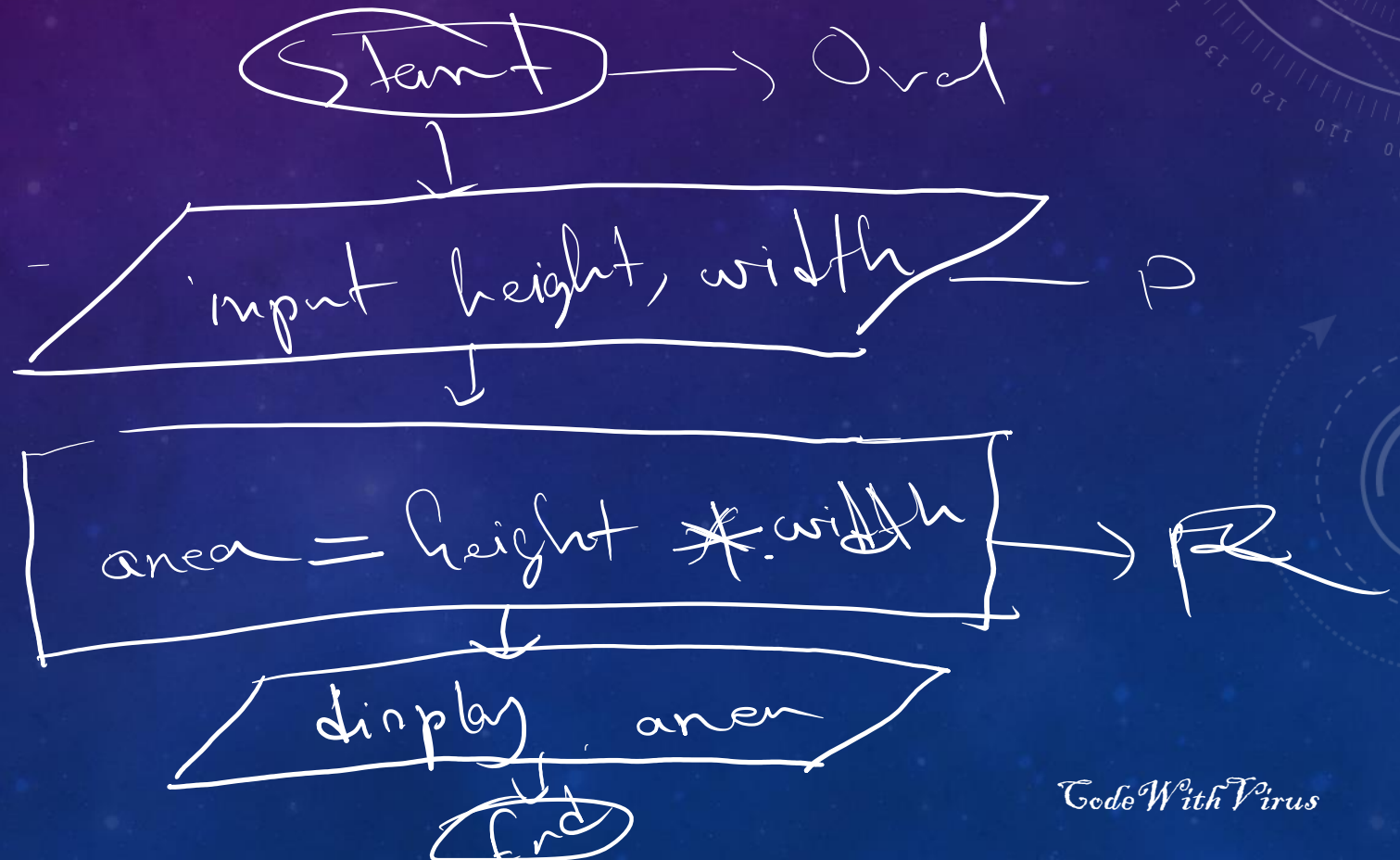
# ALGORITHM

WRITE A PROGRAM TO COMPUTE THE AREA OF A RECTANGLE.

1. Start
2. Take height and width
3. product height and width and store result
4. Display result
5. End

# FLOWCHART

WRITE A PROGRAM TO COMPUTE THE AREA OF A RECTANGLE.





# UNDERSTANDING PROBLEM

WRITE A PROGRAM TO CALCULATE THE AREA OF A CIRCLE.



# UNDERSTANDING PROBLEM

WRITE A PROGRAM TO CALCULATE THE AREA OF A CIRCLE.

Output → Area of the circle

Main process →

Input →  $r$

$$\text{area} = \pi \times r^2$$

$3.14$   
 $3.1416$   
 $3.14159$

# ALGORITHM

WRITE A PROGRAM TO CALCULATE THE AREA OF A CIRCLE.

① Display/show the area

② End/Stop

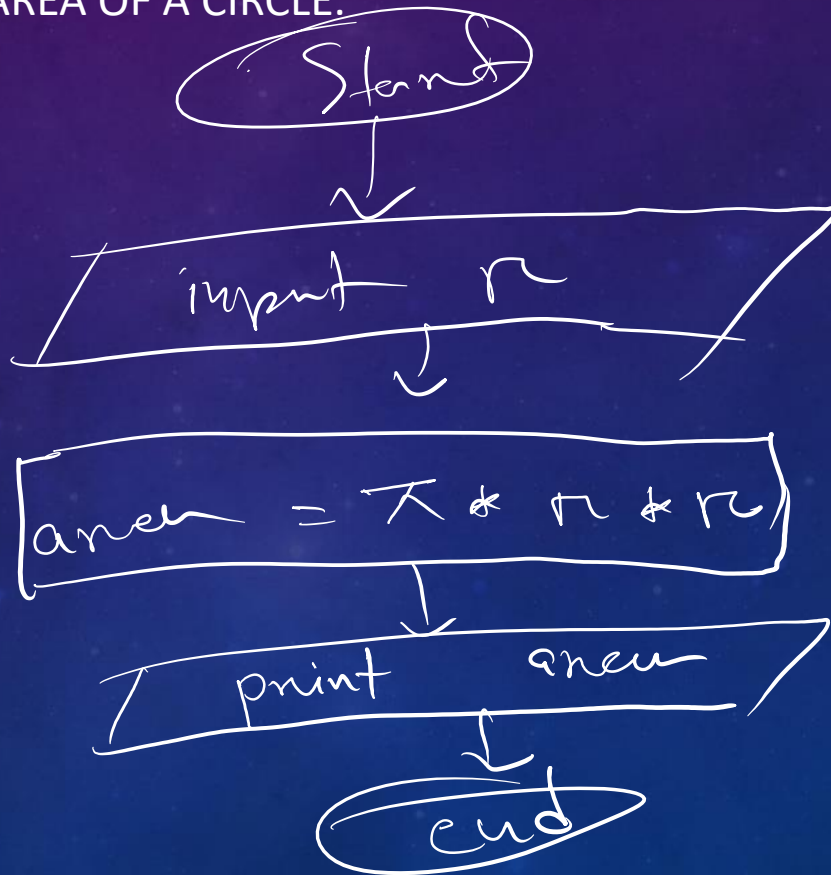
① Start

② input  $r$  / Take the radius of the circle

{  
③ get  $r$  squared and prod with  $3.14159/\pi$   
④ get area using  $\pi * r * r$   
⑤ area =  $\pi * r^2$   
}

# FLOWCHART (Visual Rep. of Algo)

WRITE A PROGRAM TO CALCULATE THE AREA OF A CIRCLE.



The background features a gradient from dark purple at the top to deep blue at the bottom, speckled with white stars. On the left side, there are several concentric circles and arcs, some with tick marks and numbers (40, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260) and arrows, resembling a stylized clock or a celestial map. The text "THE END" is prominently displayed in the center-right in a large, white, serif font.

# THE END

PART III