

The background is a dark blue gradient with a subtle pattern of small white dots. Overlaid on the left side are several concentric circles and arcs in a lighter blue color. Some of these arcs have degree markings, such as 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, and 260. There are also some curved arrows pointing in different directions.

FUNDAMENTALS OF PROGRAMMING

BONUS SESSION II

CONTENTS

- Solve Last Assignment Problems
- Algorithm of Looping
- Solve common mistakes from previous assignments
- QA

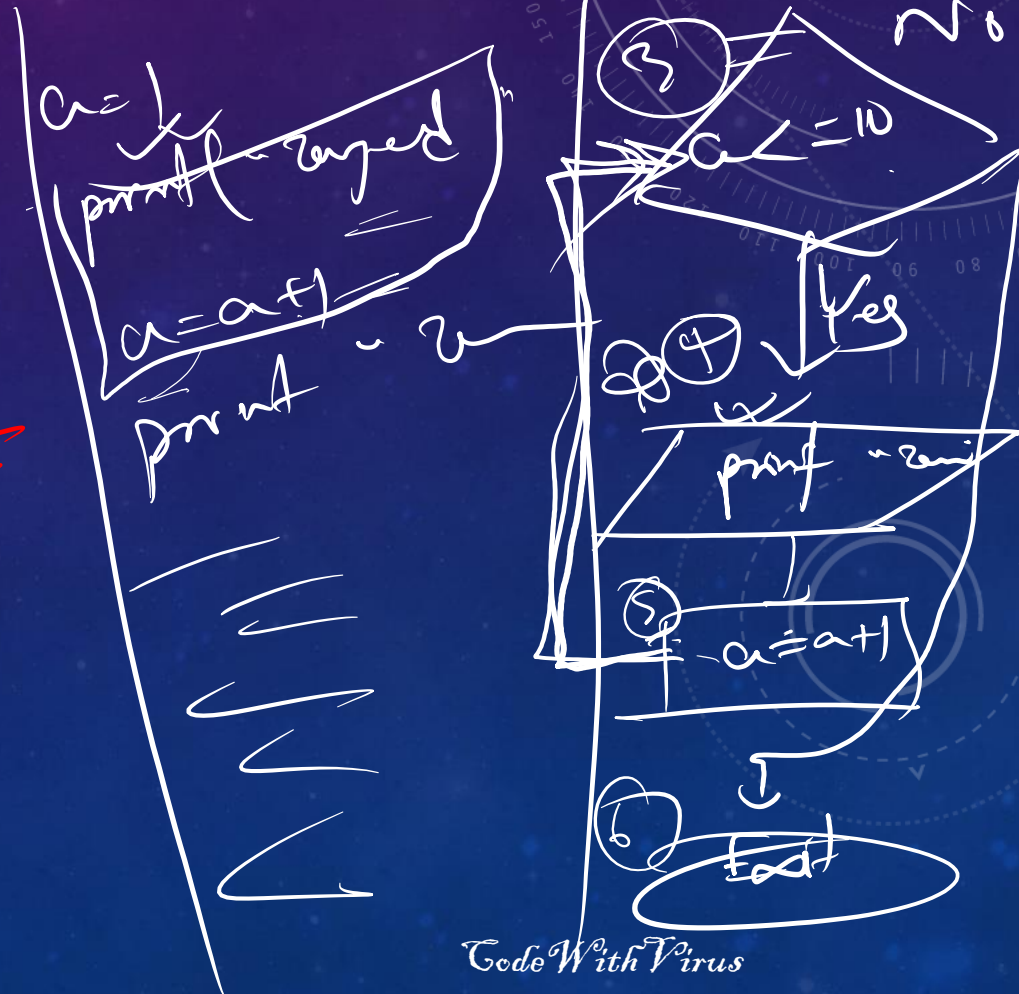
SOLVES

- Write a program to display your name 10 times (Direct your name, No input)
- Write a program to display your name n times
- Write a program to display your name and district n times. (Display name in one line, district in one)
- Write a program to display 1 to 20
- Write a program to display 1 to n
- Write a program to display all even numbers in 1 to n
- Write a program to display all odd numbers in 1 to n
- Write a program to display the square of all numbers from 1 to n ($1 + 4 + 9 + 16 + 25 + 36 + \dots$)
- Write a program to display the sum of all numbers from 1 to n
- Write a program to display the sum of all squared numbers from 1 to n

Write a program to display your name 10 times (direct your name, no input)

print "Zayed"
print "Zayed"
print "Zayed"

is (a <= 10) X
a = 1
print "Zayed"
a = 2
is (a <= 10)
print "Zayed"
a = 3
is (a <= 10)
print "Zayed"



Write a program to display your name 10 times (direct your name, no input)

Step 1: Start

Step 2: Initialize a as 0 / $a = 0$

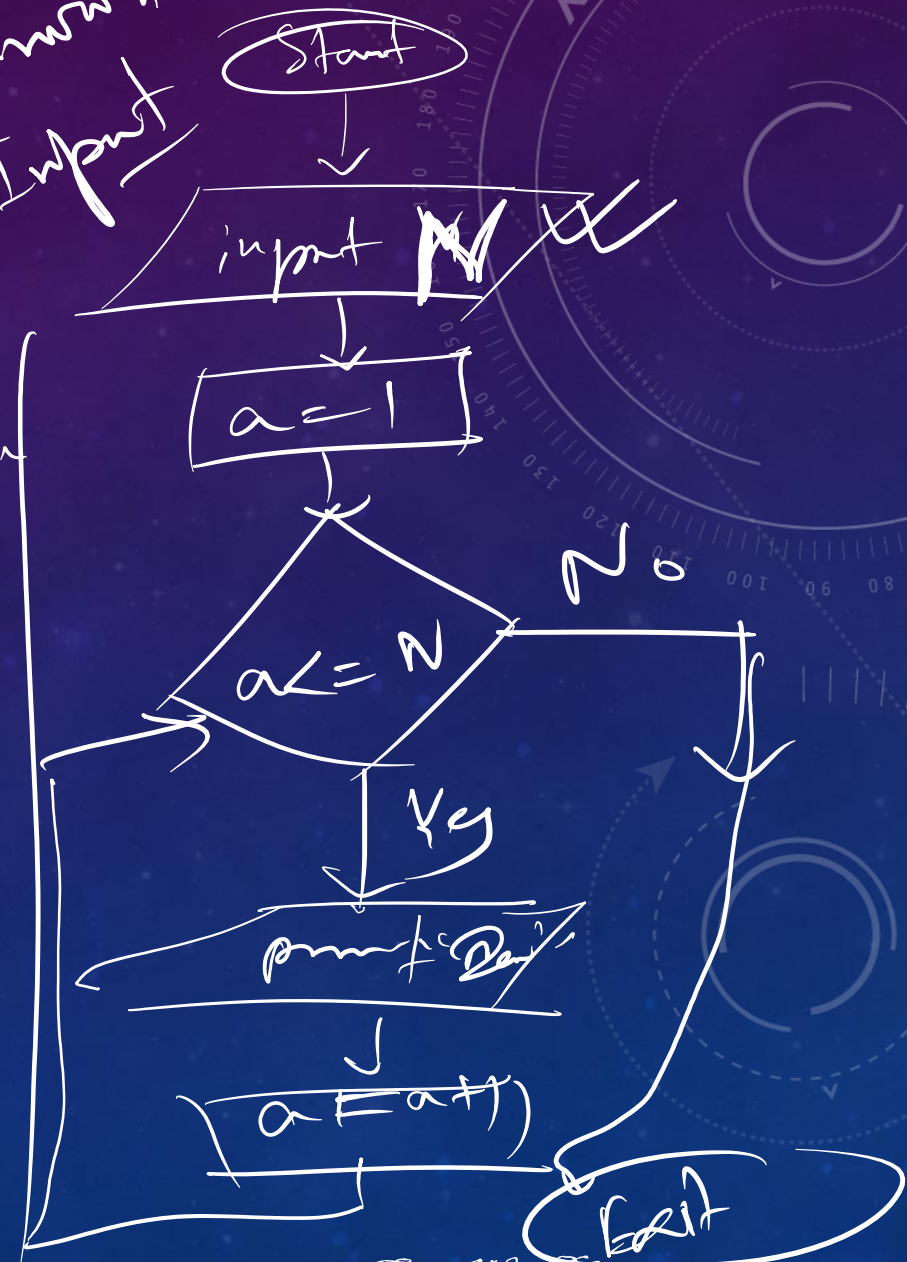
Step 3: if $a \leq 10$, goto step 4, else goto step 6

Step 4: print ~ "Virus"

Step 5: $a = a + 1$ then goto step 3

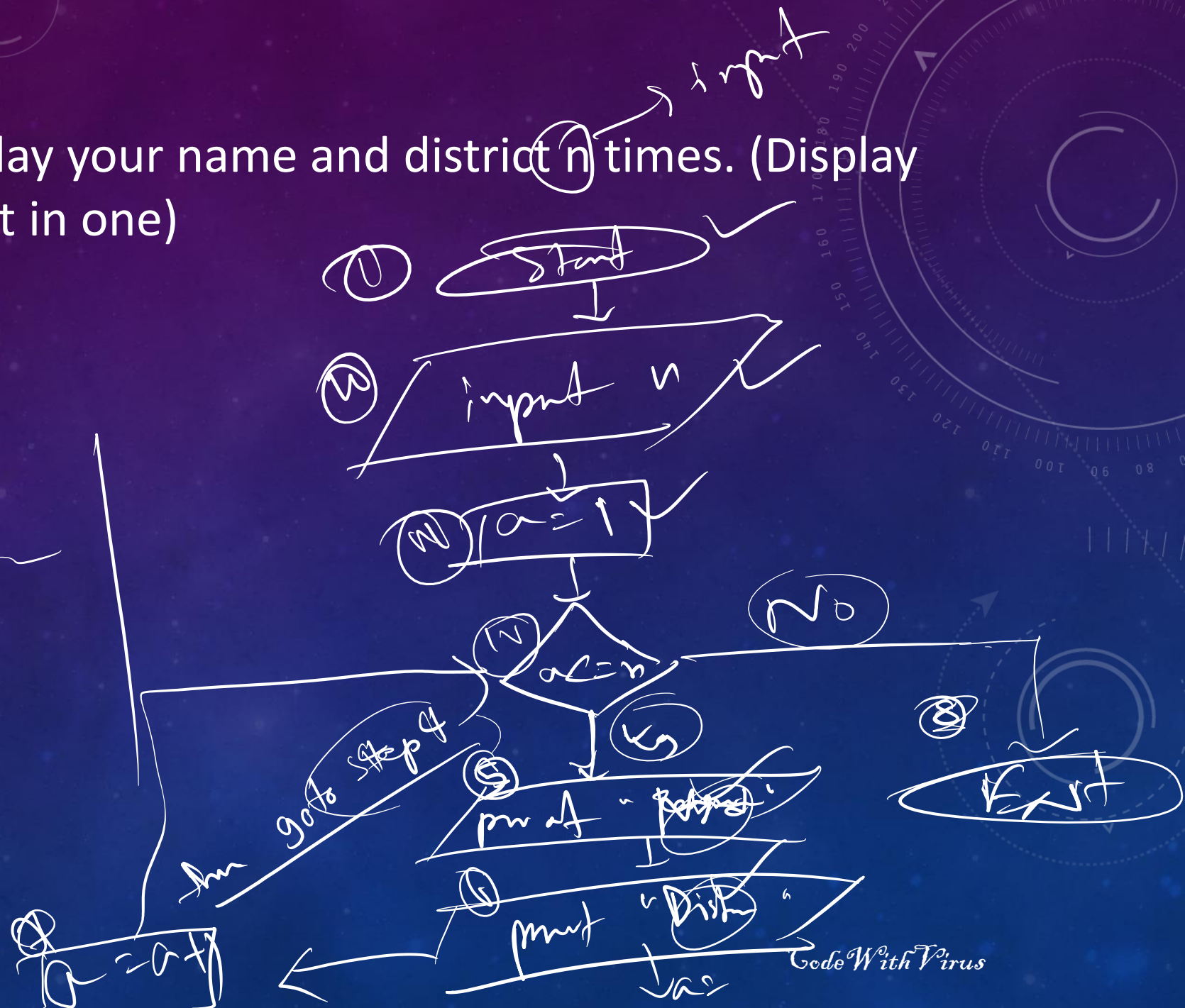
Step 6: Exit

Unknown Input



Write a program to display your name and district n times. (Display name in one line, district in one)

Print "Zangeneh"
Print "District"



Write a program to display 1 to 20

1
2
3
4

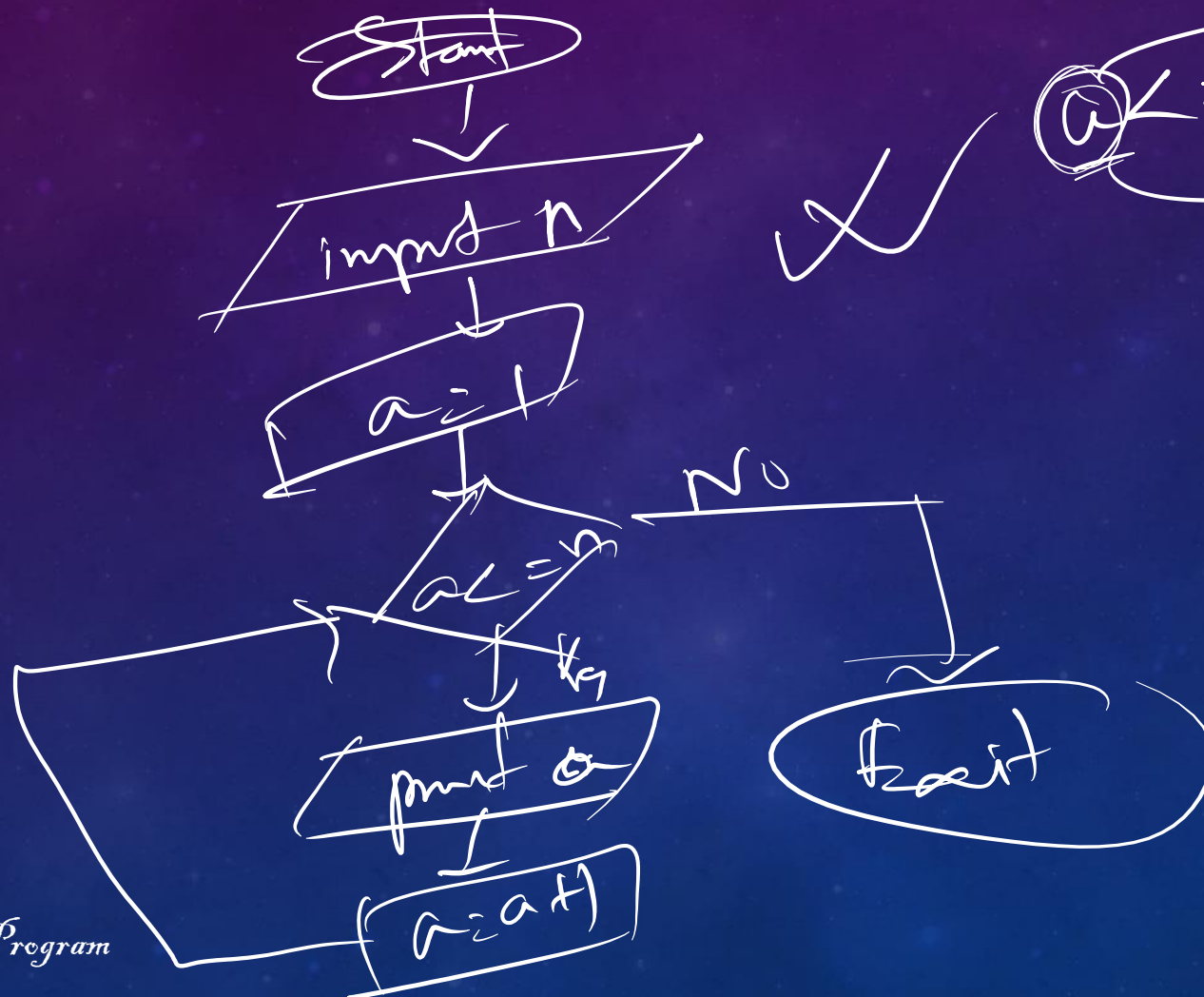
Ramadan Special Program

proof
 proof
 proof
 proof

$a=1$ $m=6$ $a=2$ $m=2$	$a=1$ $m=6$ $a=1$ $m=1$
----------------------------------	----------------------------------



Write a program to display 1 to n



input n

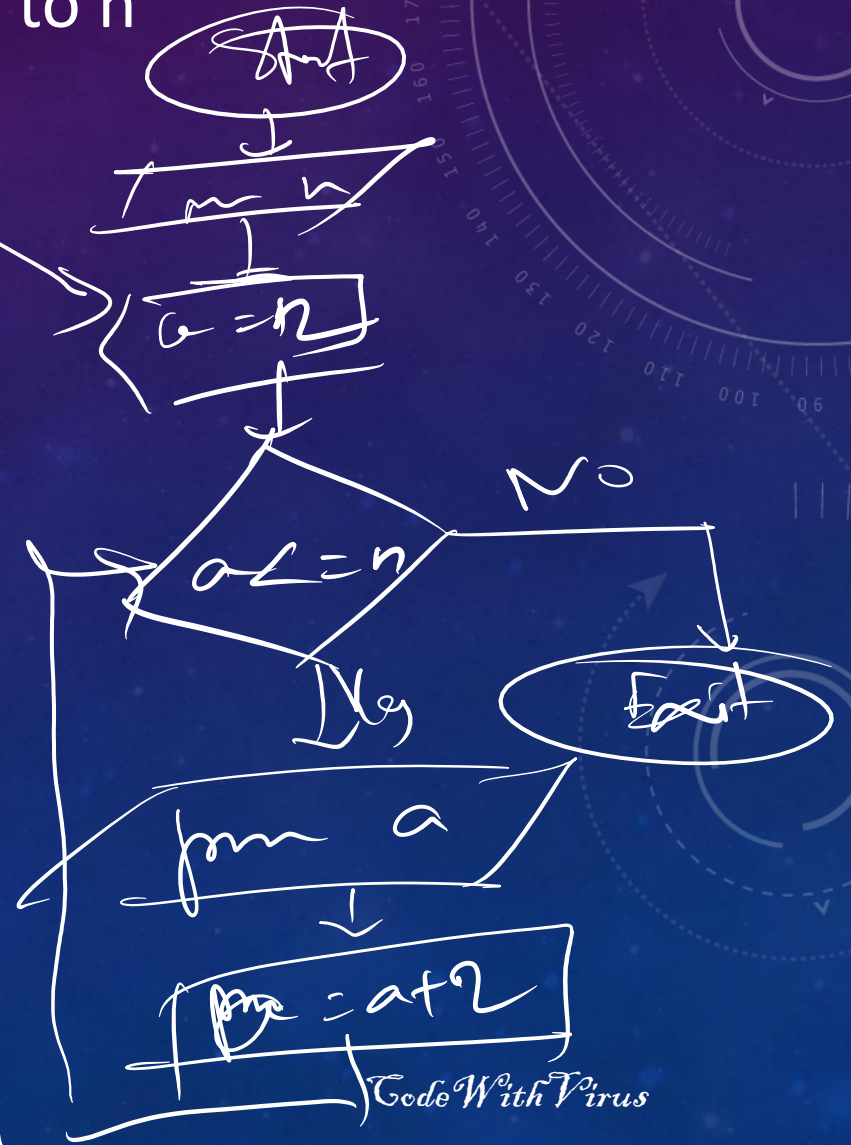
~~① K = n~~
~~→ i, j, k~~

Write a program to display all even numbers in 1 to n

part 2
pr 1 4
pr 6
pr 8

pr a a=2
pr a a=4
pr a a=6
pr a a=8

a=2
pr a
a=a+2
pr a
a=a+2
pr a
a=a+2



Write a program to display all odd numbers in 1 to n

$a = 1$ — diff 2

1 3 5 7

$a = a + 2$

Write a program to display the square of all numbers from 1 to n ($1 + 4 + 9 + 16 + 25 + 36 + \dots$)

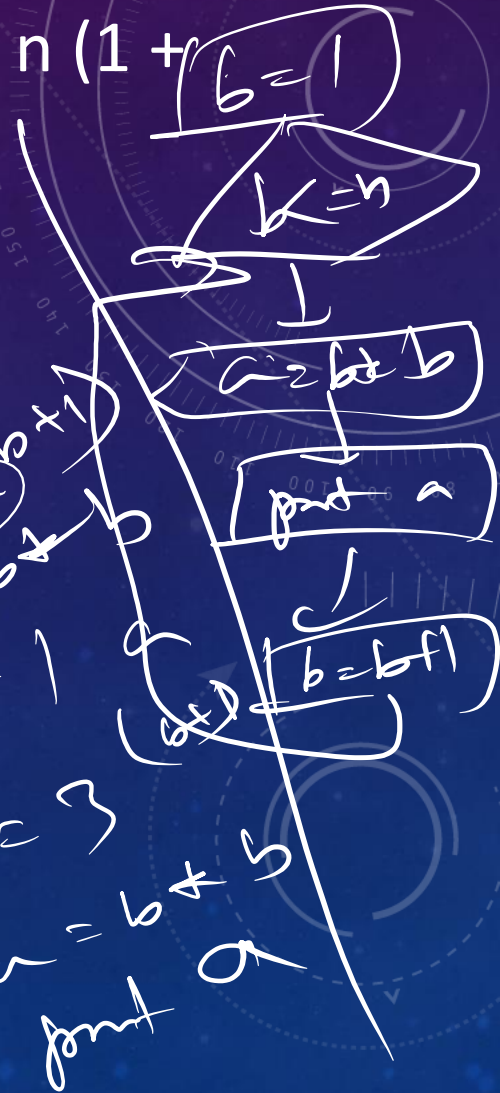
```
print 1
print 4
print 9
print 16
```

```
print a
print a
print a
```

```
a = 1
print a
a = 2
print a
a = 3
print a
a = 4
print a
```

```
b = 1
a = b * b
print a
b = 2
a = b * b
print a
b = 3
a = b * b
print a
b = 4
a = b * b
print a
```

```
b = 1
a = b * b
print a
b = b + 1
a = b * b
print a
b = 3
a = b * b
print a
```

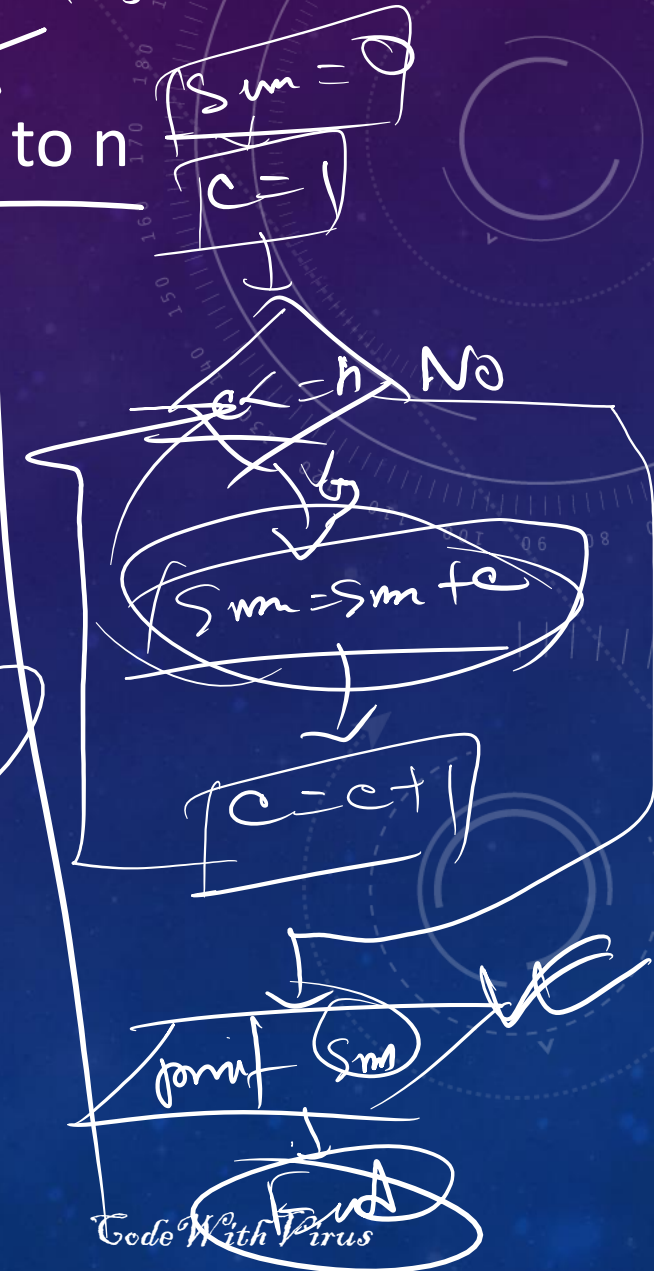


$$\begin{array}{r} 1+2+3+4+5 \\ \hline 3 \quad 6 \quad 10 \end{array}$$

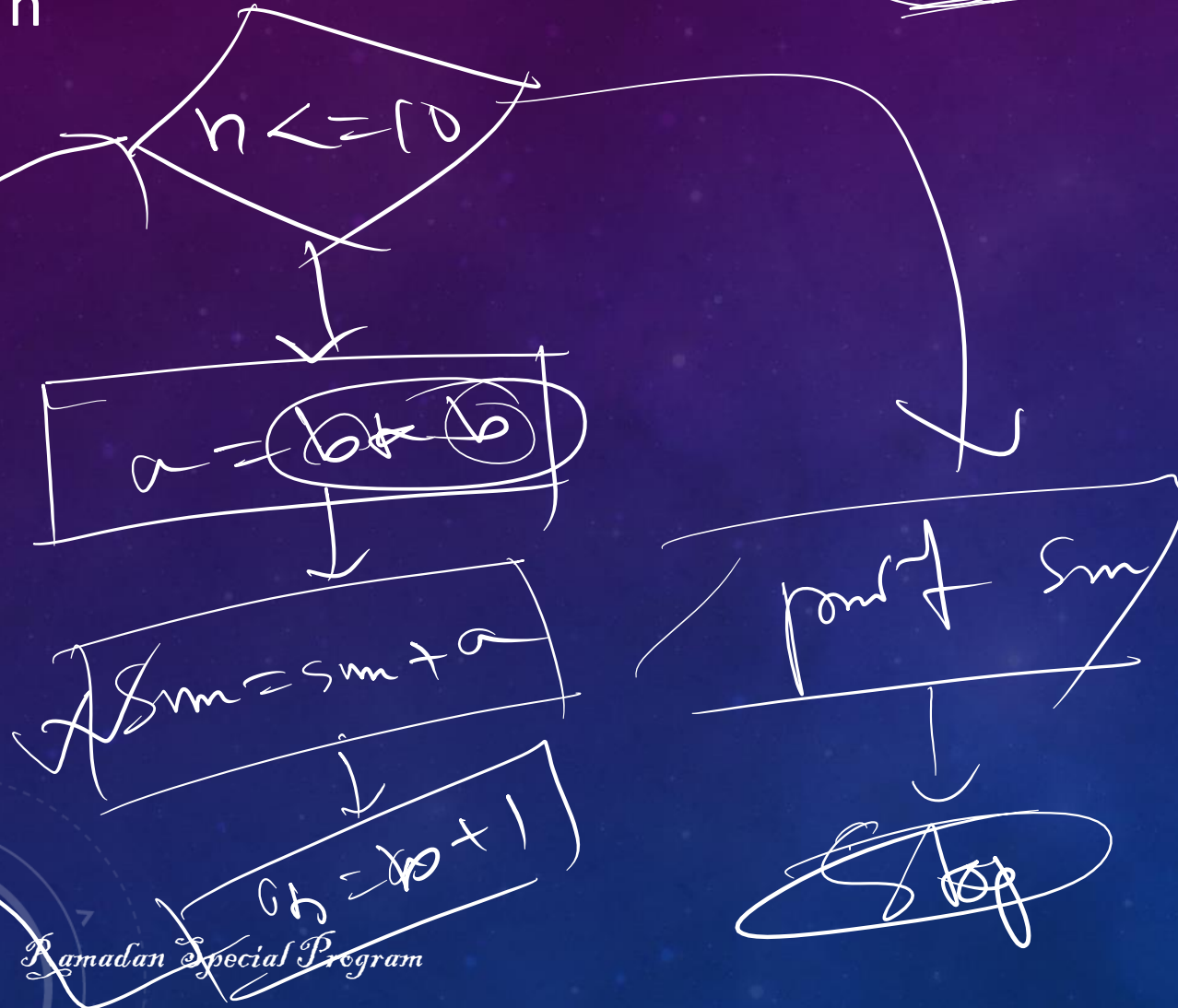
Write a program to display the sum of all numbers from 1 to n

$$\begin{array}{l} 1 = 1 \\ 1 + 2 = 3 \\ 1 + 2 + 3 = 6 \\ 1 + 2 + 3 + 4 = 10 \end{array}$$

$$\begin{array}{l} \text{sum} = 0 \\ c = 1 \\ \text{sum} = \text{sum} + c \\ c = 2 \\ \text{sum} = \text{sum} + c \\ c = 3 \\ \text{sum} = \text{sum} + c \\ c = 4 \\ \text{sum} = \text{sum} + c \end{array}$$



Write a program to display the sum of all squared numbers from 1 to n



$$a = b * b$$

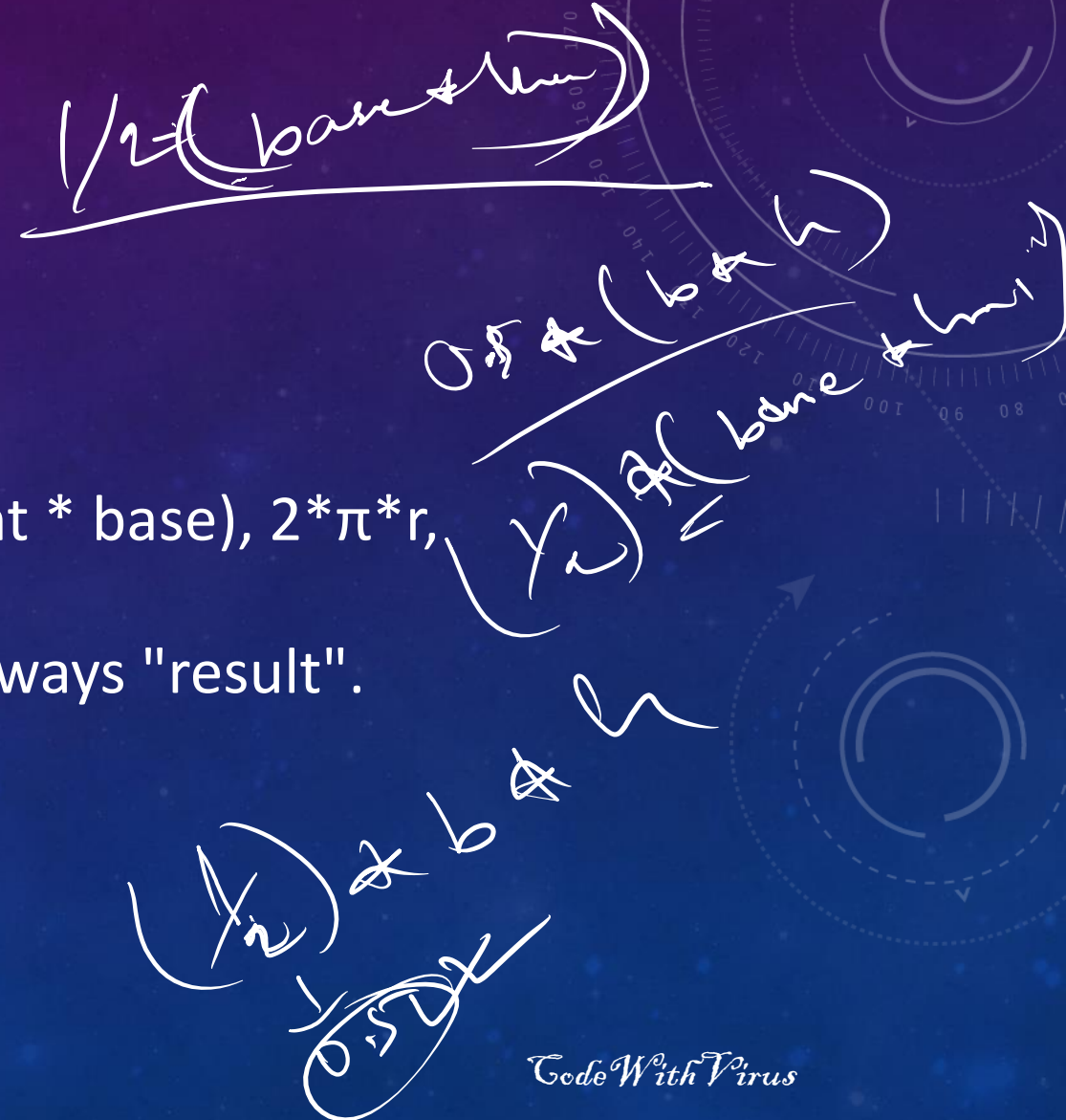
$$Sum = Sum + a$$

COMMON MISTAKES

COMMON MISTAKES THROUGHOUT ALL ASSIGNMENTS ON COURSE

COMMON MISTAKES

- $a+b+c/2$ vs $(a+b+c)/2$
- Taking value after taking user input
- Use Display / Print one! Not both!
- Use symbol wherever possible ($1/2 * (\text{height} * \text{base})$, $2*\pi*r$, $2*(\text{length}+\text{width})$)
- Print where you've stored the result. Not always "result".
- Dont print the input! Print variable!
- Use bracket for $1/2$



The background is a deep blue gradient with a subtle pattern of white stars and dots. On the left side, there are several overlapping circular and semi-circular patterns in a lighter blue color. Some of these patterns have tick marks and numbers, resembling a compass or a clock face. The numbers are 40, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, and 260. There are also some curved arrows pointing in different directions.

THE END

BONUS SESSION II

Ramadan Special Program

Code With Virus