



SESSION - 11

VOTING MACHINE



Learning Outcomes:

- **Remember:** The students will list different ways in which we can store, update values in a variable .
- **Understand:** - They will focus on understanding the execution of the program by the use of IF-ELSE STRUCTURE
 - They will understand how to compare and perform operations on stored values .
- **Apply:** They will apply the concepts learnt to the code of Voting Machine Program .
- **Analyze:** They will check their understanding by developing the codes
- **Create:** They will create the code in EduBlocks

Remember & Understanding

ACTIVITY DESCRIPTION

In this activity we are creating a code for voting machine.
 There will be 2 candidates and number of voters will be user input.
 After voting compare votes and declare winner.

Apply & Create

ACTIVITY 01:-

**</> WRITE THE PROGRAM TO CREATE A LIST
AND TEST ALL FIVE OPERATIONS**

Program Step 1:-

 Wispy Sun



Imports



Variables


Create variable...

app.edublocks.org says

New variable name:

OK

Cancel

 Wispy Sun



Imports



Variables

Create variable...

app.edublocks.org says

New variable name:

OK

Cancel

Program Step 2:-

The screenshot shows the app.edublocks.org interface. On the left, there is a sidebar with a Python logo and the name 'Wispy Sun'. Below this are two buttons: 'Imports' (with an upward arrow icon) and 'Variables' (with a hamburger menu icon). The main workspace contains a blue 'Create variable...' button. Below it, a variable block is visible with the name 'Candidate 1', an equals sign, and the value '0'. A dialog box is open on the right, titled 'app.edublocks.org says'. It contains the text 'New variable name:' followed by a text input field containing 'Number of Voters'. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

Wispy Sun

Imports

Variables

Create variable...

Candidate 1 = 0

app.edublocks.org says

New variable name:

Number of Voters

OK Cancel

Program Step 3:-

The image shows the Scratch interface. On the left is the 'Variables' palette with categories: Imports, Variables, Statements, Text, and Math. The 'Variables' category is selected. In the center, the 'Create variable...' dialog box is open, showing a list of variables: 'Number of Voters', 'Candidate 1', 'Candidate 2', and 'Number of Voters'. The 'Number of Voters' variable is selected, and the value '0' is entered in the input field.

The image shows the Scratch code area. A yellow speech bubble at the top says '# Start code here'. Below it are three blue 'set to 0' blocks stacked vertically. The first block is for 'Candidate 1', the second for 'Candidate 2', and the third for 'Number of Voters'.

Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = 0
5
```

Program Step 4:-

Imports

Variables

Statements

Text

time.sleep(1)

Convert

str(1)

int(+ "1")

Start code here

Candidate 1 = 0

Candidate 2 = 0

Number of Voters = int(+ "1")

Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int("1")
5
```


Program Step 5:-

Imports
Variables
Statements

Input

input("What is your name?")

Time

Start code here

Candidate 1 = 0

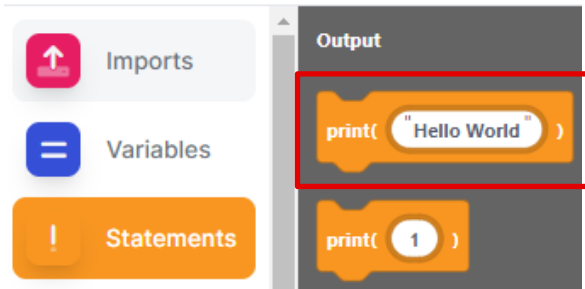
Candidate 2 = 0

Number of Voters = int(+ input("Enter the number"))

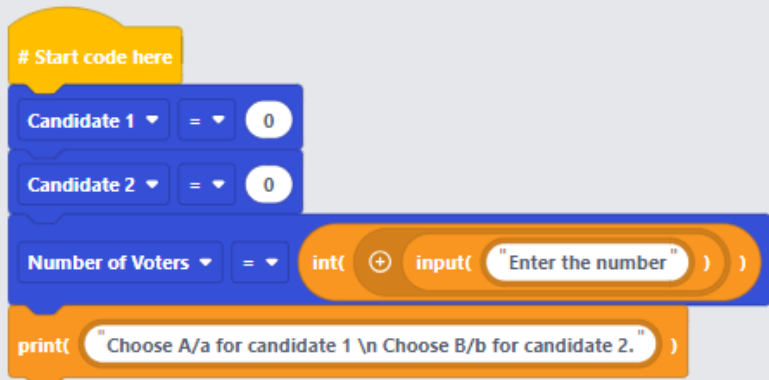
Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("Enter the number")
5
```

Program Step 6:-



A screenshot of a Scratch-style block palette and output window. The palette on the left has three categories: 'Imports' (with an upward arrow icon), 'Variables' (with an equals sign icon), and 'Statements' (with an exclamation mark icon). The 'Statements' category is selected. The output window on the right, titled 'Output', shows two lines of code: `print("Hello World")` and `print(1)`. The first line is highlighted with a red rectangular box.



A screenshot of Scratch-style code blocks for a voting program. The code starts with a yellow block labeled '# Start code here'. It then has two blue blocks for variable initialization: 'Candidate 1' set to 0 and 'Candidate 2' set to 0. This is followed by a blue block for 'Number of Voters' set to an orange block containing `int(input("Enter the number"))`. The final block is an orange `print("Choose A/a for candidate 1 \n Choose B/b for candidate 2. ")` block.

Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("Enter the number"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate
6
```

Program Step 7:-

Imports

Variables

Statements

Output

print("Hello World")

print(1)

Start code here

Candidate 1 = 0

Candidate 2 = 0

Number of Voters = int(input("Enter the number"))

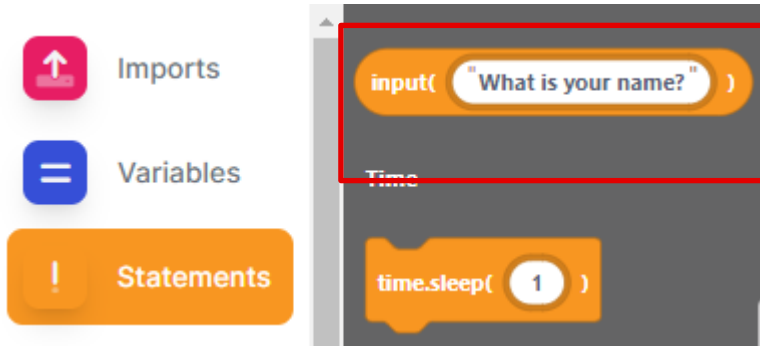
print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")

print(1)

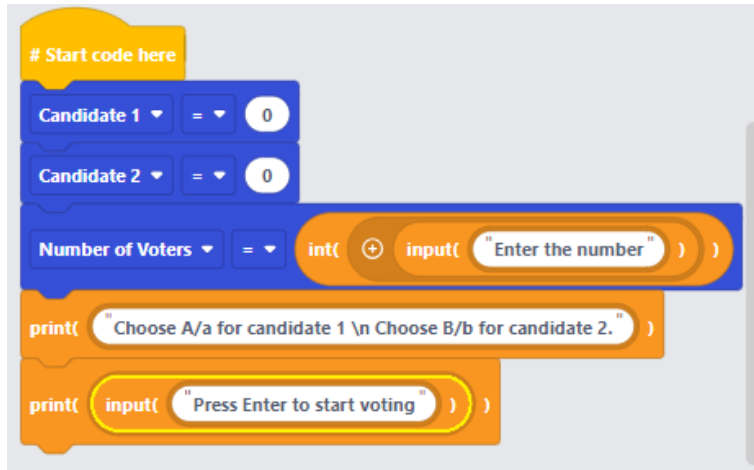
Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("Enter the number"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(1)
7
```

Program Step 8:-



A Scratch-style block palette on the left with three categories: 'Imports' (pink block with an upward arrow), 'Variables' (blue block with an equals sign), and 'Statements' (orange block with an exclamation mark). The main code area on the right contains two blocks: an 'input' block with the text 'What is your name?' and a 'time.sleep(1)' block. A red rectangle highlights the 'input' block.



A Scratch-style code area containing the following blocks: a yellow block with the text '# Start code here', two 'Candidate 1' and 'Candidate 2' variable blocks set to 0, a 'Number of Voters' variable block, an 'int' block containing an 'input' block with the text 'Enter the number', a 'print' block with the text 'Choose A/a for candidate 1 \n Choose B/b for candidate 2.', and another 'print' block containing an 'input' block with the text 'Press Enter to start voting'.

Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("Enter the number"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7
```

Program Step 9:-

Loops

while True :

for i in range(0 10):

Start code here

Candidate 1 = 0

Candidate 2 = 0

Number of Voters = int(input("Enter the number"))

print("Choose A/a for candidate 1 \n Choose B/b for candidate 2. ")

print(input("Press Enter to start voting"))

for i in range(0 10):

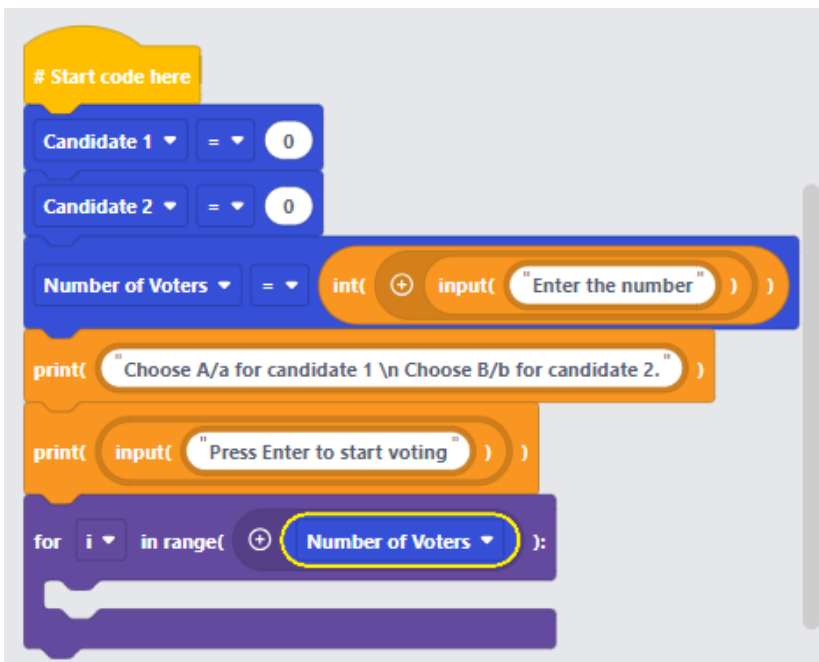
Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("Enter the number"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate
6 print(input("Press Enter to start voting"))
7 for i in range(10):
8     pass
9
```

Program Step 10:-

The image shows a Scratch-like block editor interface. On the left is a sidebar with five categories: Imports (pink arrow icon), Variables (blue equals icon), Statements (orange exclamation mark icon), Text (purple T icon), and Math (dark blue square root icon). The 'Variables' category is currently selected. On the right is the main workspace containing a stack of code blocks. The stack starts with a light blue 'Create variable...' block. Below it is a blue block with a dropdown menu showing 'i', an equals sign, and a text field containing '0'. This is followed by three blue dropdown menu blocks labeled 'Candidate 1', 'Candidate 2', and 'i'. The final block in the stack is a blue dropdown menu labeled 'Number of Voters', which is highlighted with a red rectangular border.


Program Step 11:-



Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("Enter the number"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     pass
9
```

Program Step 12:-

 Wispy Sun



Imports



Variables



Statements

Create variable...

i ▼

= ▼

0

Candidate 1 ▼

app.edublocks.org says

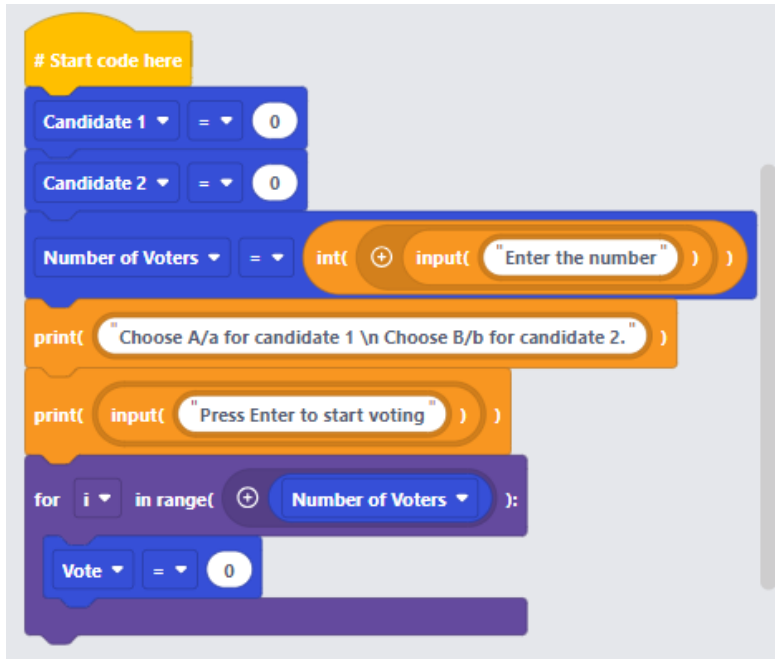
New variable name:

Vote|

OK

Cancel

Program Step 13:-



Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("Enter the number"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = 0
9
```

Program Step 14:-



Imports



Variables



Statements

input("What is your name?")

Time

time.sleep(1)

Program Step 15:-

Start code here

```

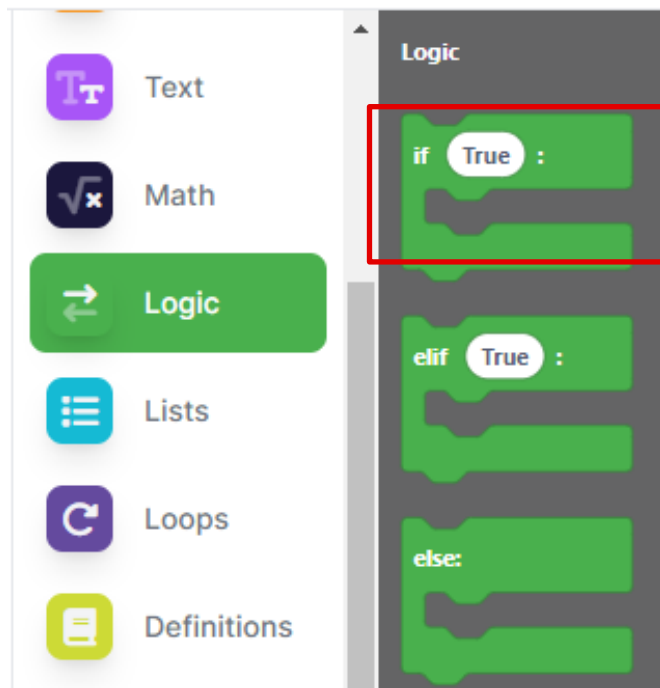
Candidate 1 = 0
Candidate 2 = 0
Number of Voters = int(input("Enter the number"))
print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
print(input("Press Enter to start voting"))
for i in range(Number of Voters):
    Vote = input("Choose your vote")
  
```

Code

```

1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("Enter the number"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9
  
```

Program Step 16:-



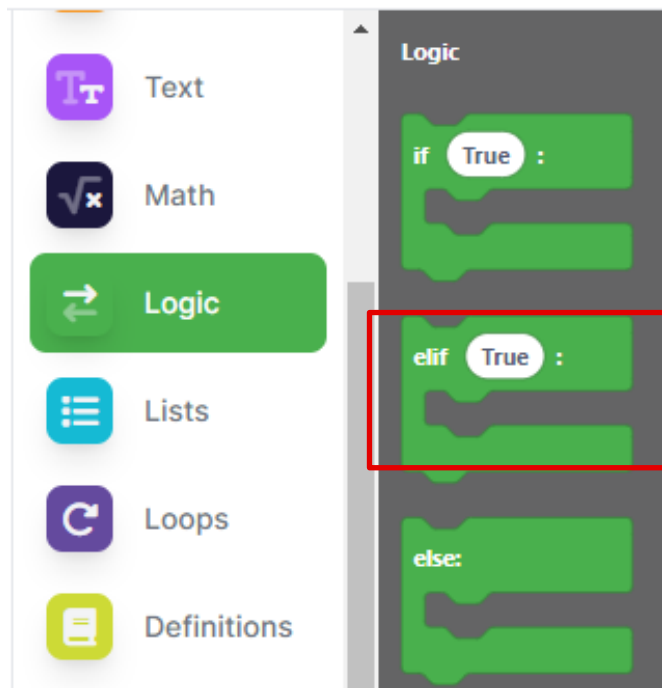
Program Step 17:-



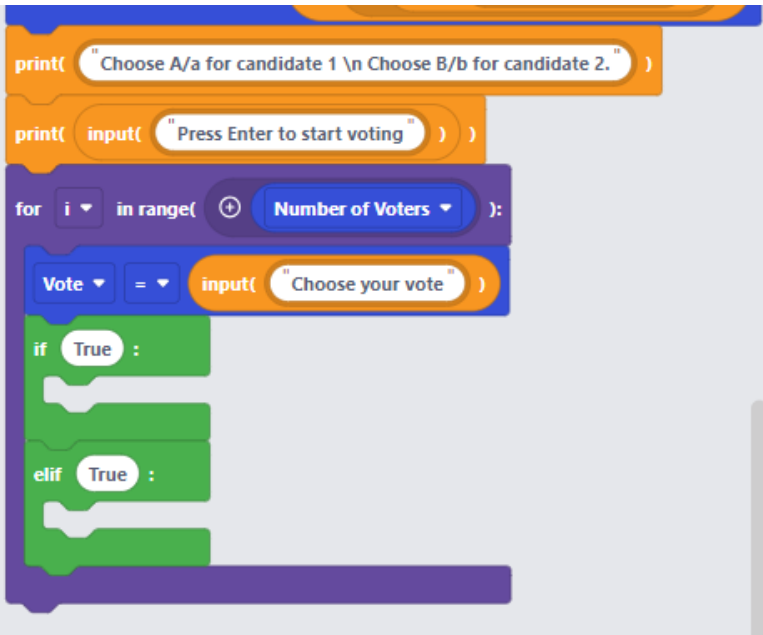
Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("Enter the number"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if True:
10         pass
11
```

Program Step 18:-



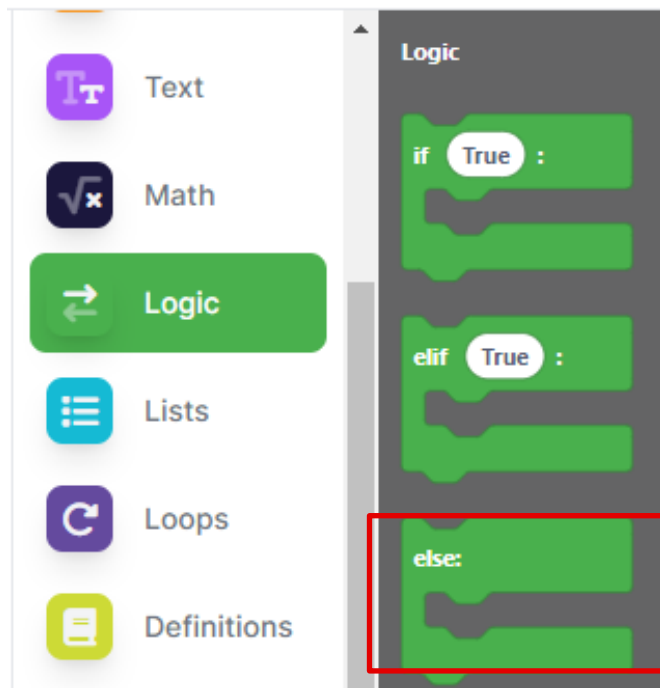
Program Step 1:-



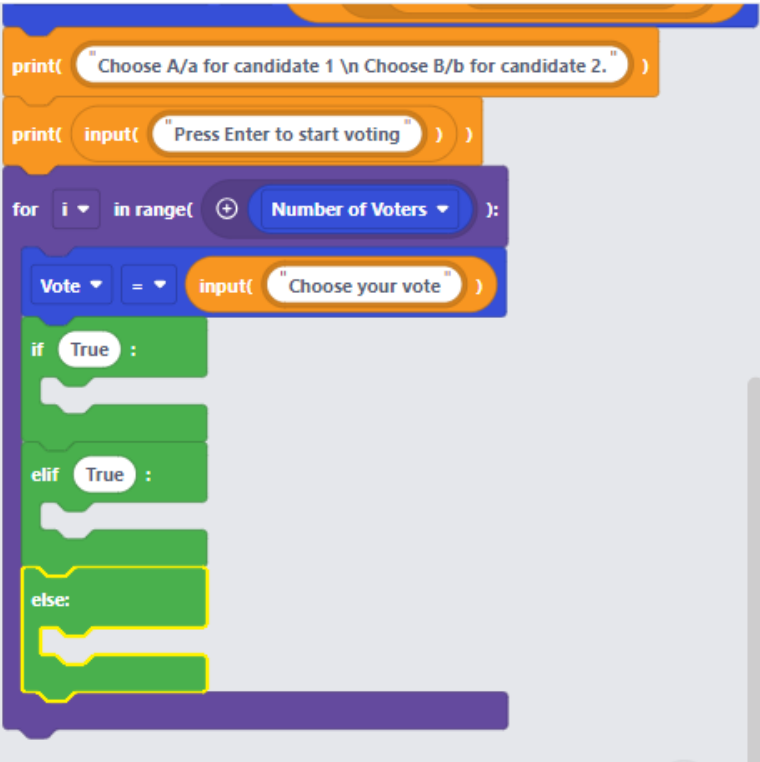
Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if True:
10         pass
11     elif True:
12         pass
13
```

Program Step 19:-



Program Step 20:-



Code

```

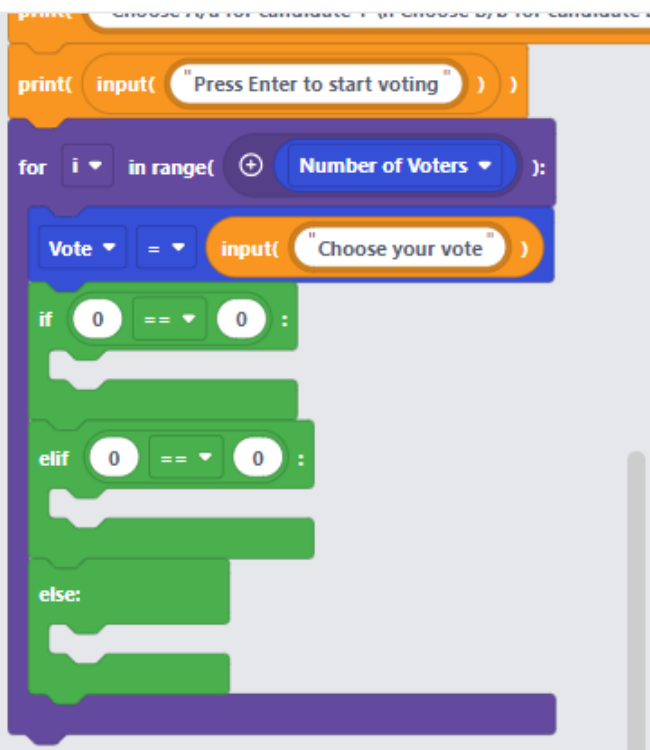
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if True:
10         pass
11     elif True:
12         pass
13     else:
14         pass
15

```

Program Step 21:-

The image shows the Scratch Logic block editor. On the left is a sidebar with category icons: Text (purple 'T'), Math (dark blue square root), Logic (green double arrow), Lists (cyan list icon), Loops (purple circular arrow), Definitions (yellow notepad), and Turtle (blue pencil). The main workspace is titled 'Logic' and contains three green blocks: 'if True:', 'elif True:', and 'else:'. At the bottom of the 'else:' block, a comparison block is highlighted with a red rectangle. This block contains the value '0', the operator '==', a dropdown menu showing 'v', and another value '0'.

Program Step 22:-



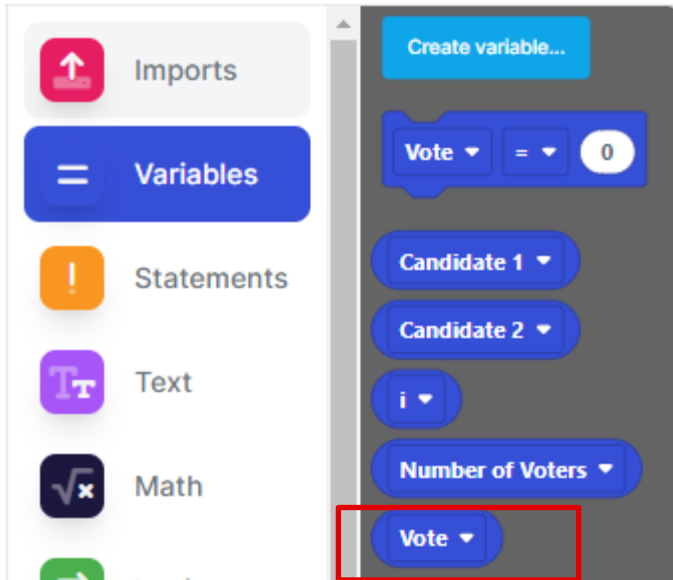
Code

```

1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 v for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     v if 0 == 0:
10         pass
11 v elif 0 == 0:
12     pass
13 v else:
14     pass
15

```

Program Step 23:-



Program Step 24:-

```
print( "Choose A/a for candidate 1 \n Choose B/b for candidate 2." )
print( input( "Press Enter to start voting" ) )
for i in range( Number of Voters ):
    Vote = input( "Choose your vote" )
    if Vote == 0 :
        # ...
    elif Vote == 0 :
        # ...
    else:
        # ...
```

Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if Vote == 0:
10         pass
11     elif Vote == 0:
12         pass
13     else:
14         pass
15
```

Program Step 25:-

↑ Imports

= Variables

! Statements

T Text

√ Math

↔ Logic

☰ Lists

↻ Loops

Logic

if True :

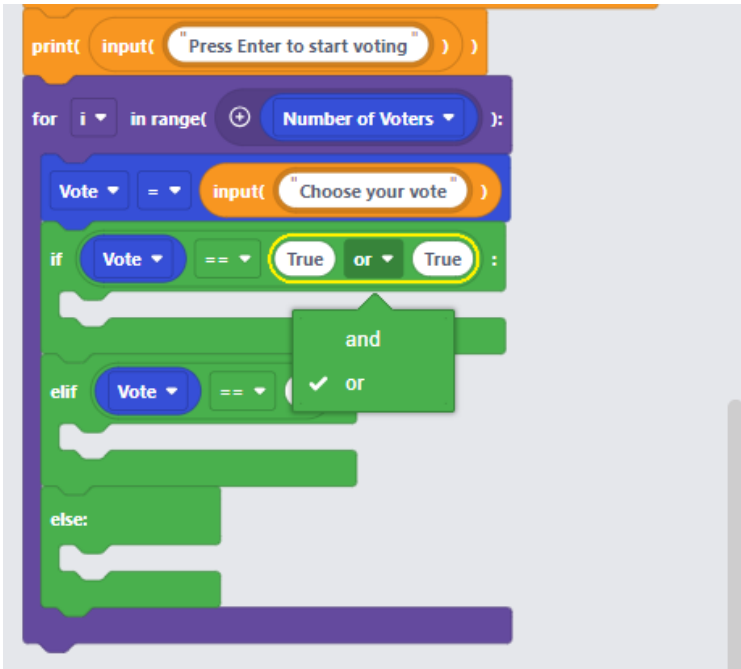
elif True :

else:

0 == 0

True and True

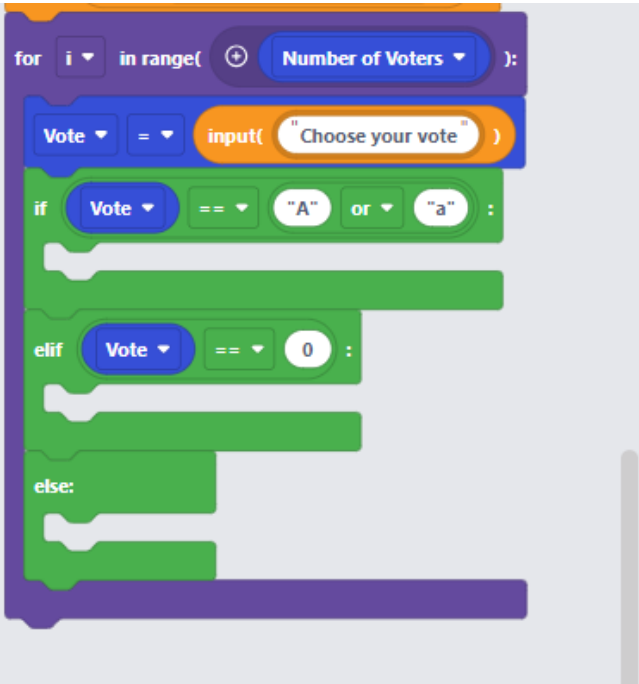
Program Step 26:-



Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if Vote == True or True:
10         pass
11     elif Vote == 0:
12         pass
13     else:
14         pass
15
```

Program Step 27:-



Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if Vote == "A" or "a":
10         pass
11     elif Vote == 0:
12         pass
13     else:
14         pass
15
```


Program Step 28:-

```
print( input( "Press Enter to start voting" ) )
```

```
for i in range( Number of Voters ):
```

```
Vote = input( "Choose your vote" )
```

```
if Candidate 1 == "A" or "a" :
```

```
    Candidate 1 += 1
```

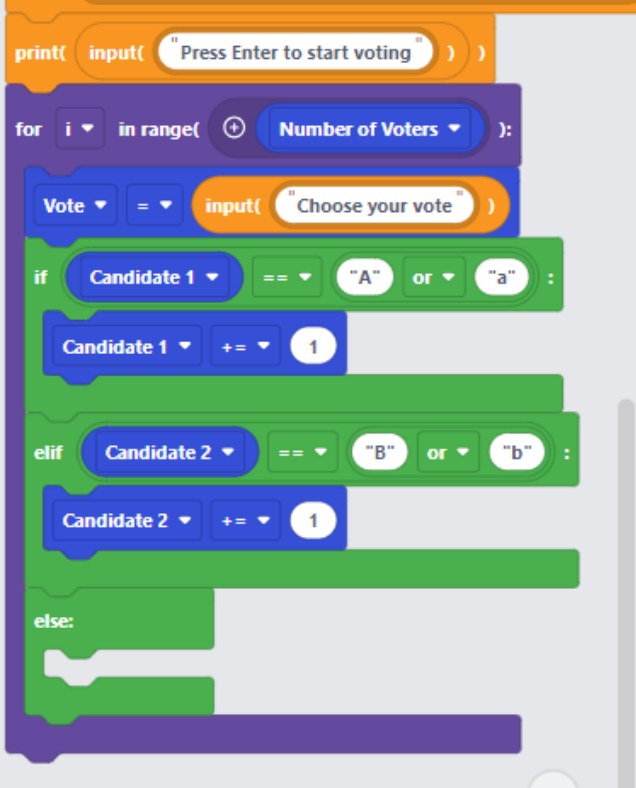
```
elif Vote == 0 :
```

```
else:
```

Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if Candidate_1 == "A" or "a":
10         Candidate_1 += 1
11 elif Vote == 0:
12     pass
13 else:
14     pass
15
```


Program Step 29:-





Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if Candidate_1 == "A" or "a":
10         Candidate_1 += 1
11     elif Candidate_2 == "B" or "b":
12         Candidate_2 += 1
13     else:
14         pass
15
```

Program Step 30:-

 Imports

 Variables

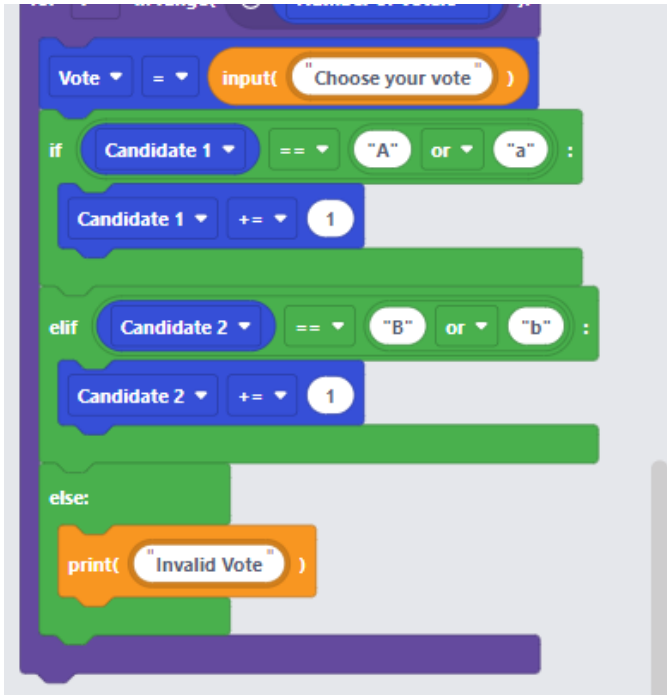
 Statements

Output

```
print( "Hello World" )
```

```
print( 1 )
```

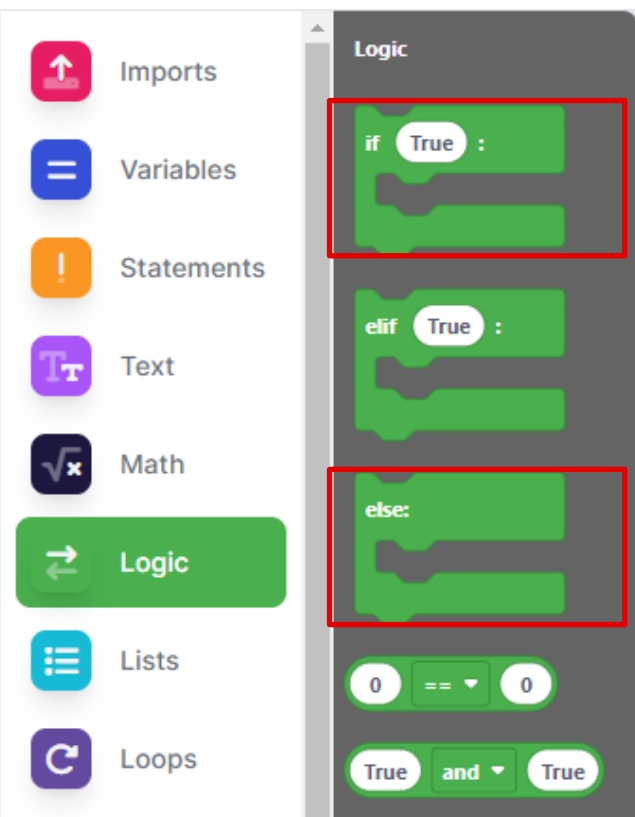
Program Step 31:-



Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if Candidate_1 == "A" or "a":
10         Candidate_1 += 1
11     elif Candidate_2 == "B" or "b":
12         Candidate_2 += 1
13     else:
14         print("Invalid Vote")
15
```

Program Step 32:-



The image shows the Scratch Logic block palette on the left and the workspace on the right. The palette includes categories: Imports, Variables, Statements, Text, Math, Logic (highlighted), Lists, and Loops. The workspace contains a 'Logic' block with an 'if True:' block, an 'elif True:' block, and an 'else:' block, all highlighted with red rectangles. Below these are two comparison blocks: '0 == 0' and 'True and True'.

Imports

Variables

Statements

Text

Math

Logic

Lists

Loops

Logic

if True :

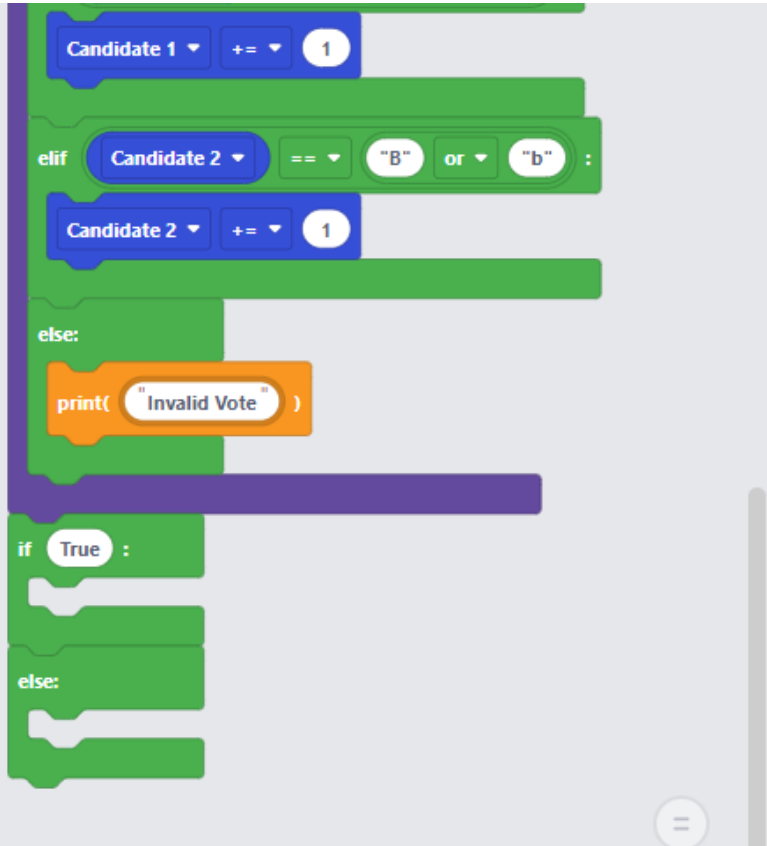
elif True :

else:

0 == 0

True and True

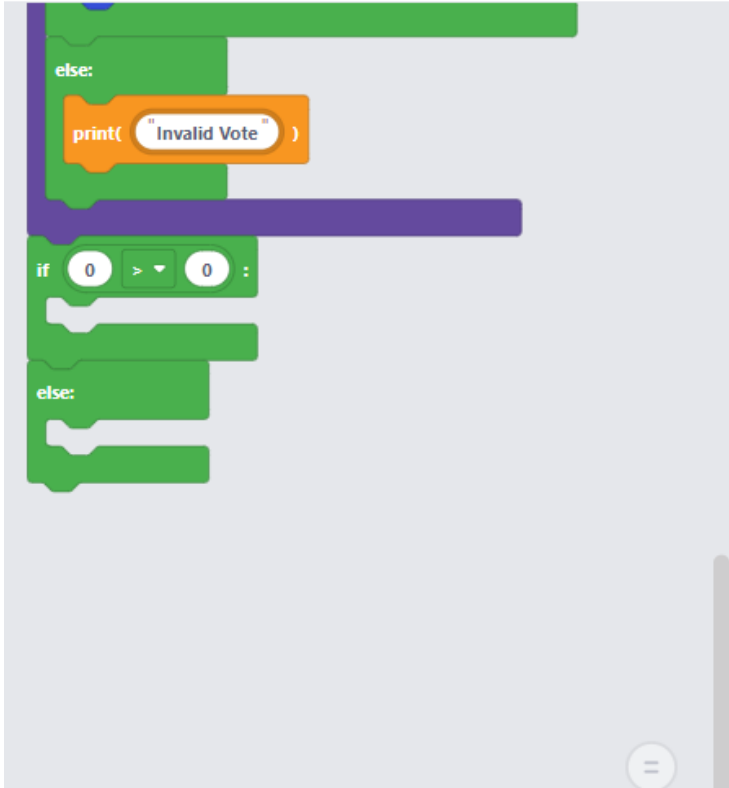
Program Step 33:-



Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if Candidate_1 == "A" or "a":
10         Candidate_1 += 1
11     elif Candidate_2 == "B" or "b":
12         Candidate_2 += 1
13     else:
14         print("Invalid Vote")
15 if True:
16     pass
17 else:
18     pass
```

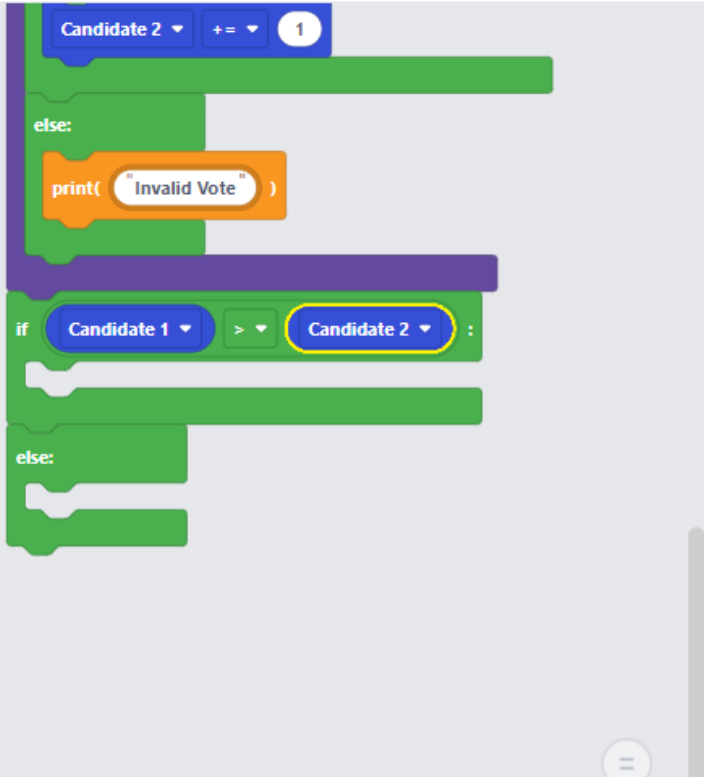
Program Step 34:-



Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 v for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     v if Candidate_1 == "A" or "a":
10         Candidate_1 += 1
11 v elif Candidate_2 == "B" or "b":
12     Candidate_2 += 1
13 v else:
14     print("Invalid Vote")
15 v if 0 > 0:
16     pass
17 v else:
18     pass
```

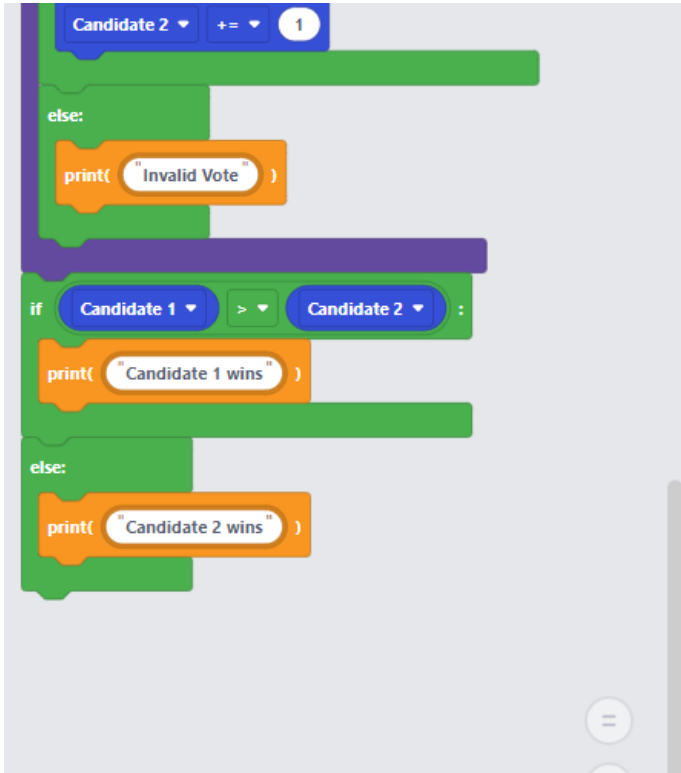
Program Step 35:-



Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if Candidate_1 == "A" or "a":
10         Candidate_1 += 1
11     elif Candidate_2 == "B" or "b":
12         Candidate_2 += 1
13     else:
14         print("Invalid Vote")
15 if Candidate_1 > Candidate_2:
16     pass
17 else:
18     pass
```


Program Step 36:-



Code

```
1 #Start code here
2 Candidate_1 = 0
3 Candidate_2 = 0
4 Number_of_Voters = int(input("What is your name?"))
5 print("Choose A/a for candidate 1 \n Choose B/b for candidate 2.")
6 print(input("Press Enter to start voting"))
7 for i in range(Number_of_Voters):
8     Vote = input("Choose your vote")
9     if Candidate_1 == "A" or "a":
10         Candidate_1 += 1
11     elif Candidate_2 == "B" or "b":
12         Candidate_2 += 1
13     else:
14         print("Invalid Vote")
15     if Candidate_1 > Candidate_2:
16         print("Candidate 1 wins")
17     else:
18         print("Candidate 2 wins")
19
```

Output

Powered by  trinket

Enter the number 3

Choose A/a for candidate 1

Choose B/b for candidate 2.

Press Enter to start voting

Choose your vote A

Choose your vote A

Choose your vote A

Candidate 1 wins

ACTIVITY SHEETS

Question 1:

How many operations we can do on variable?

- A. 1
- B. 3
- C. 2
- D. 4

Question 2:

Which is the symbol of decrement operation?

- A. ==
- B. -=
- C. +=
- D. =-

Question 3:

Which is the symbol of Increment operation?

- A. ==
- B. +=
- C. =+
- D. ++

Question 4:

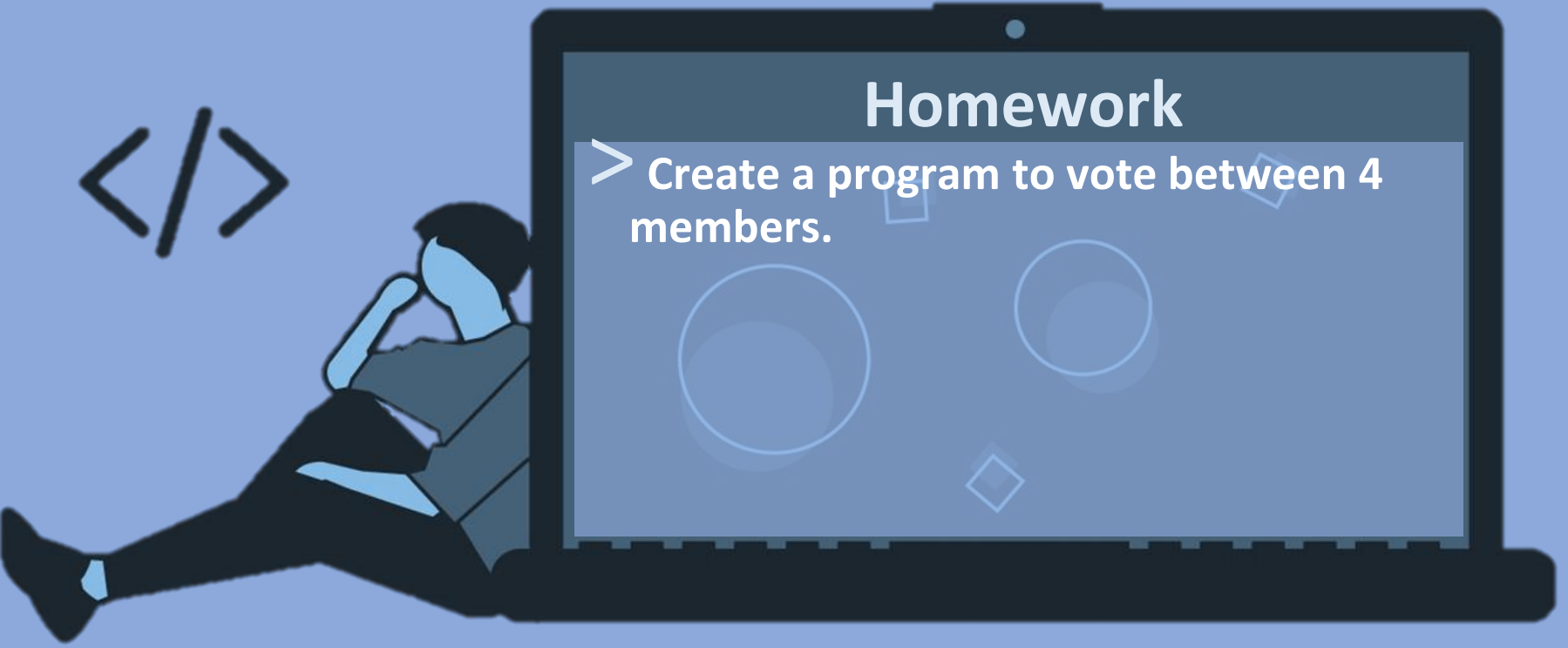
Name the operation “=!”

- A. not equal to
- B. equal to
- C. equal
- D. none of these

Question 5:

Name the operation “ \geq ”

- A. not equal
- B. equal to
- C. greater than
- D. lesser than



Homework

- > Create a program to vote between 4 members.