



SESSION - 4

IF-ELSE CONDITION



Learning Outcomes:

- **Remember:** The students will list different types of blocks being learnt in the session .
- **Understand:** - They will focus on understanding the conditional statement - IF-ELSE
- **Apply:** They will learn to apply and check the execution of the learnt statement
- **Analyze:** They will check their understanding by developing a code.
- **Create:** They will create the code in EduBlocks

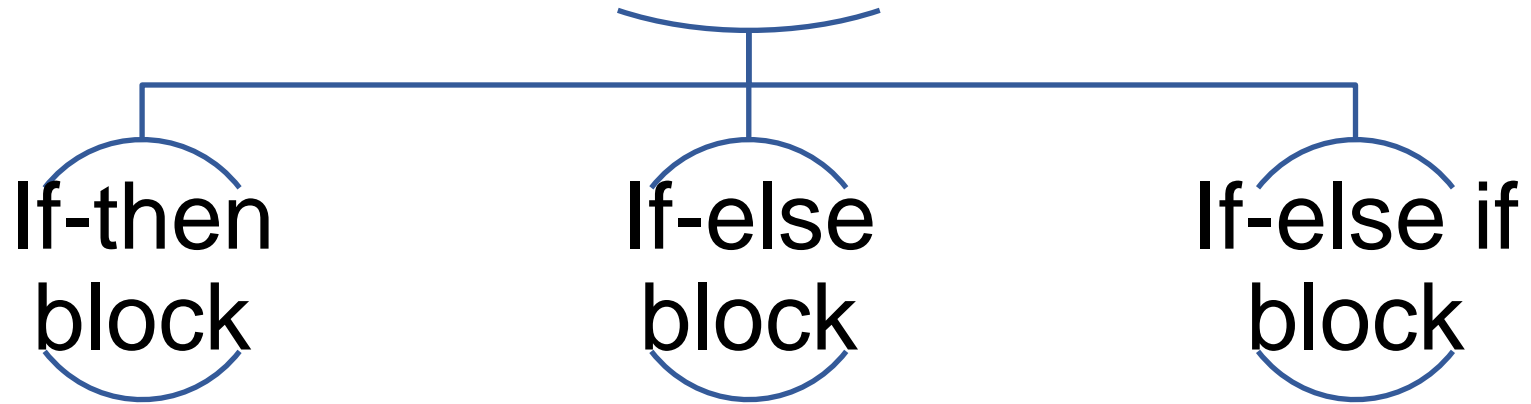
If and else statement is basically used to compare the condition, then perform one task out of two.

For example, if we want to make program to identify whether you are minor by age or not then we use if statement to compare the age.



TYPES OF CONDITIONS

Types of conditions



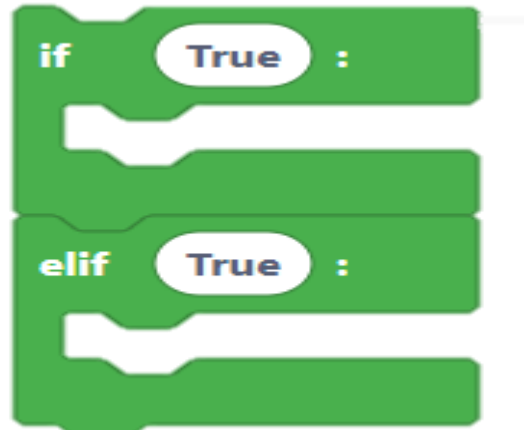
IF-THEN BLOCK

- If statement is the simplest decision-making statement.
- It is used to decide whether a certain statement or block of statements will be executed or not
- i.e. if a certain condition is true then a block of statement is executed otherwise not.

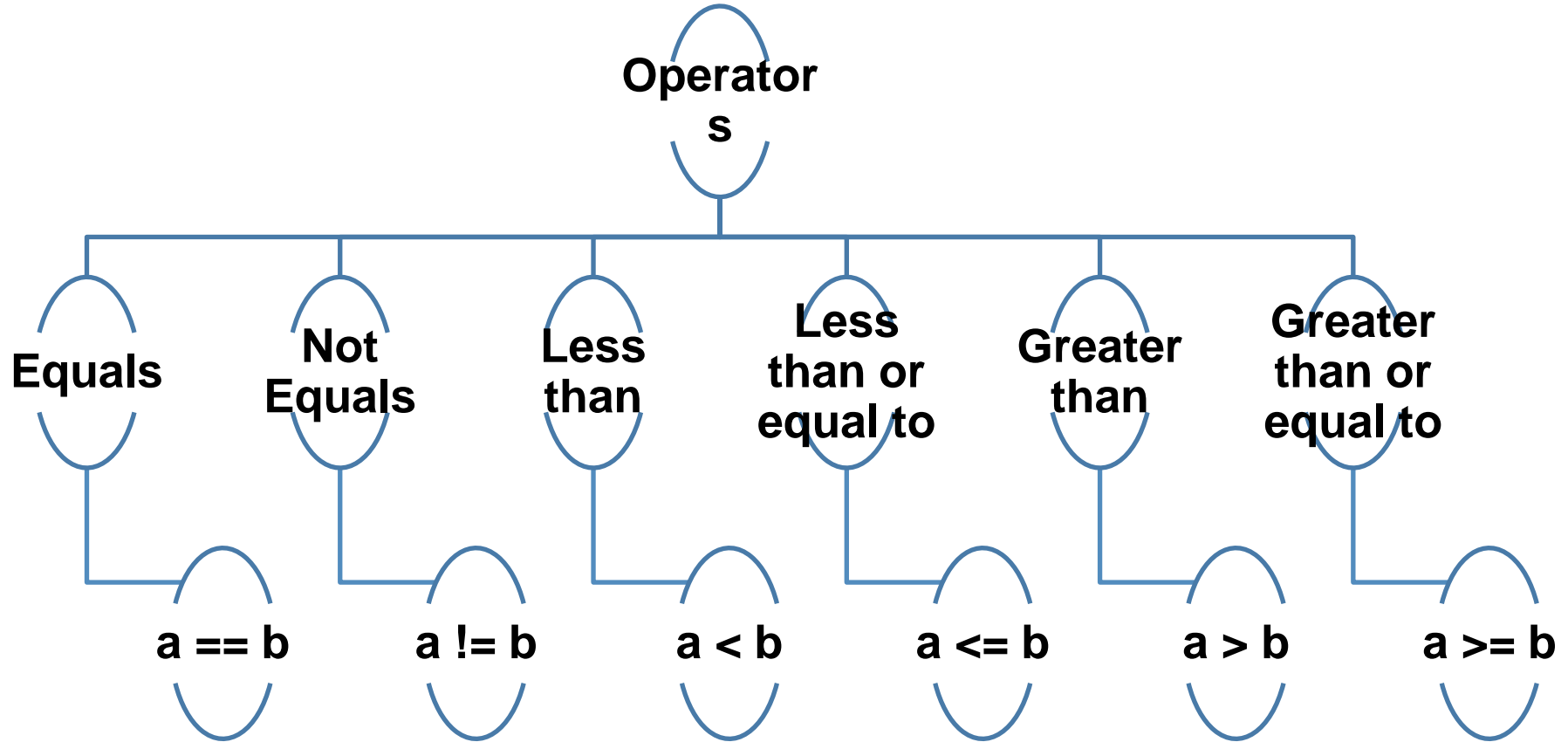


IF-ELSE BLOCK

- A user can decide among multiple options. The if statements are executed from the top down.
- As soon as one of the conditions controlling the if is true, the statement associated with that if is executed, and the rest of the ladder is bypassed.
- If none of the conditions is true, then the final else statement will be executed.



OPERATORS



TASK 01:-

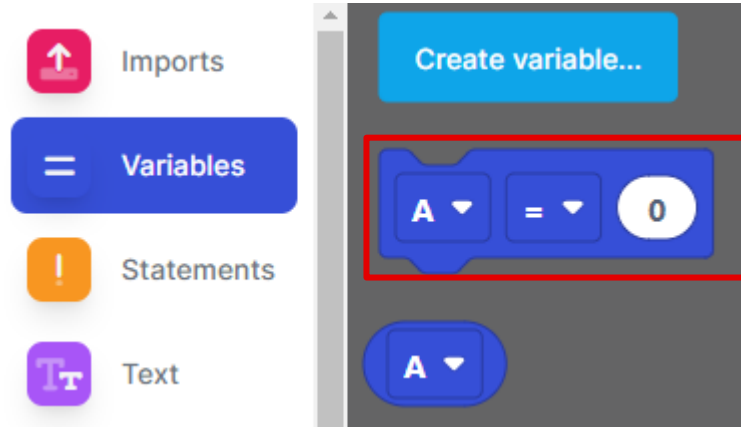
**</> WRITE A PROGRAM TO COMPARE TWO
GIVEN NUMBERS**

Program Step 1:-

The screenshot shows the Edublocks web interface. On the left sidebar, there are three main sections: 'Imports' (with an upward arrow icon), 'Variables' (with an equals sign icon), and 'Statements' (with an exclamation mark icon). The 'Variables' section is currently active. In the center workspace, a grey block labeled 'Create variable...' is highlighted with a red rectangular border. To the right of the workspace, a white dialog box is open. The dialog box contains the text 'app.edublocks.org says' and 'New variable name:'. Below this text is a text input field containing the letter 'A'. At the bottom right of the dialog box are two buttons: 'OK' (in blue) and 'Cancel' (in white with a blue border).

Create a variable and name it as 'A'

Program Step 2:-



Imports

Variables

Statements

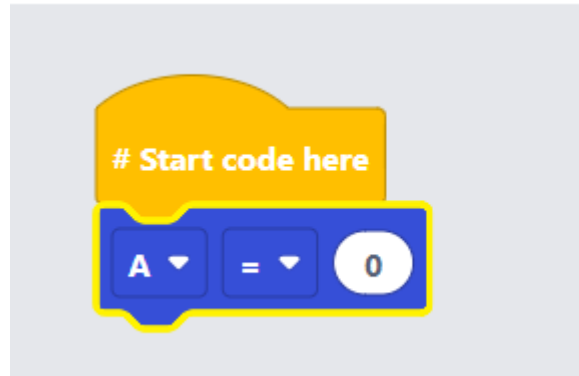
Text

Create variable...

A ▾ = ▾ 0

A ▾

Initialize the "A" variable



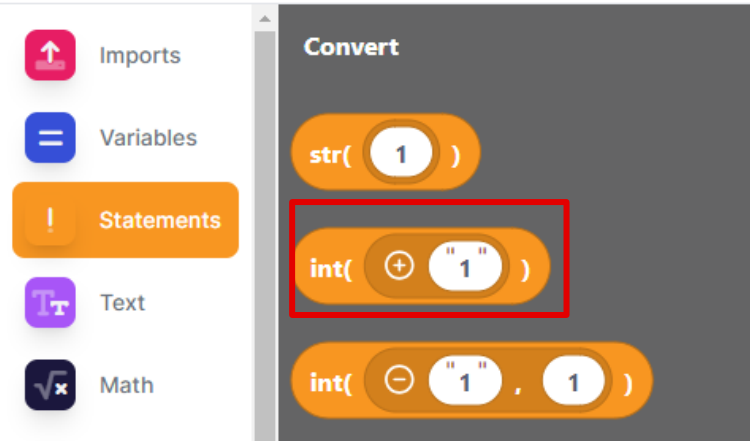
Start code here

A ▾ = ▾ 0

Code

```
1 #Start code here
2 A = 0
3
```

Program Step 3:-



Imports

Variables

Statements

Text

Math

Convert

str(1)

int(+ " 1 ")

int(- " 1 " , 1)

Store an int block to specify that input will be stored as an integer



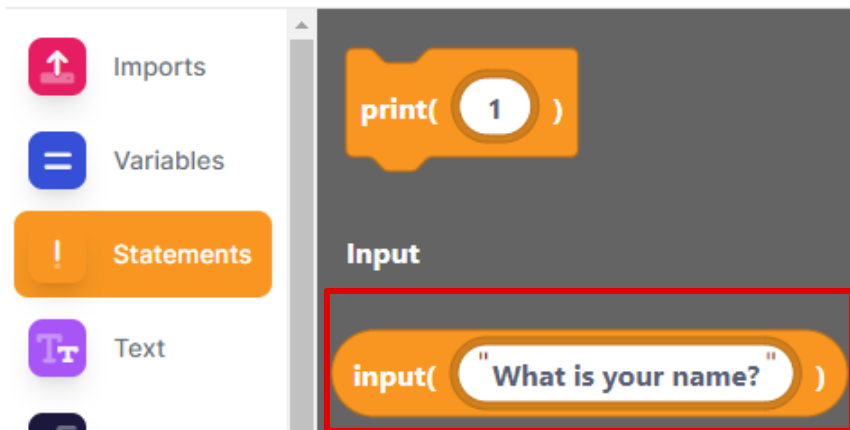
Start code here

A = int(+ " 1 ")

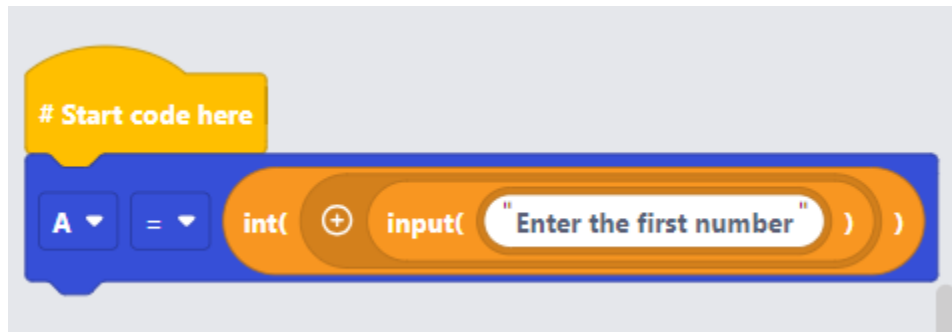
Code

```
1 #Start code here
2 A = int("1")
3
```

Program Step 4:-



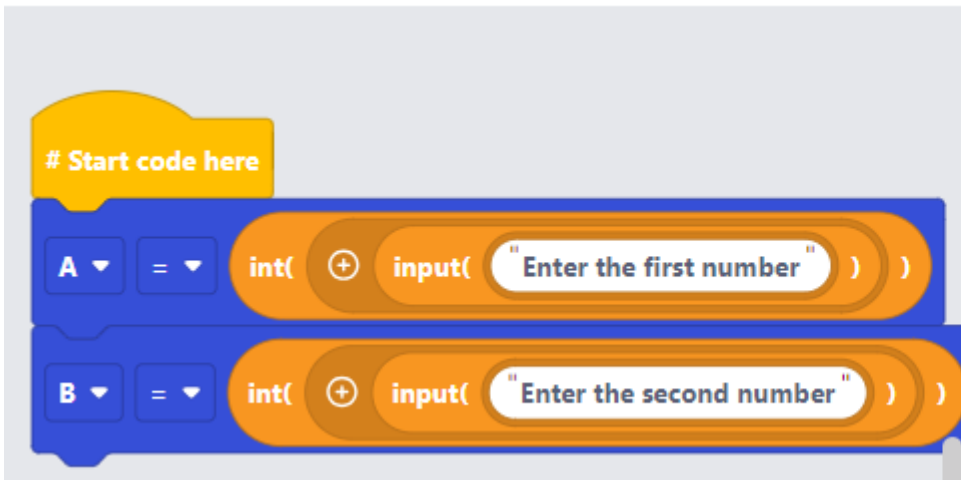
Add an input block to take input from the user



Code

```
1 #Start code here
2 A = int(input("Enter the first number"))
3
```

Program Step 5:-

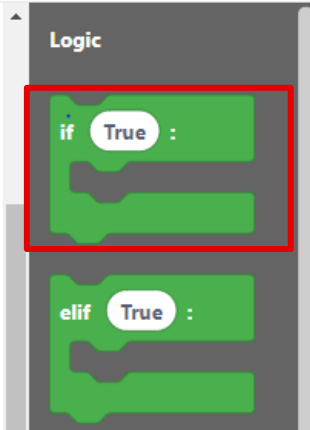


Code

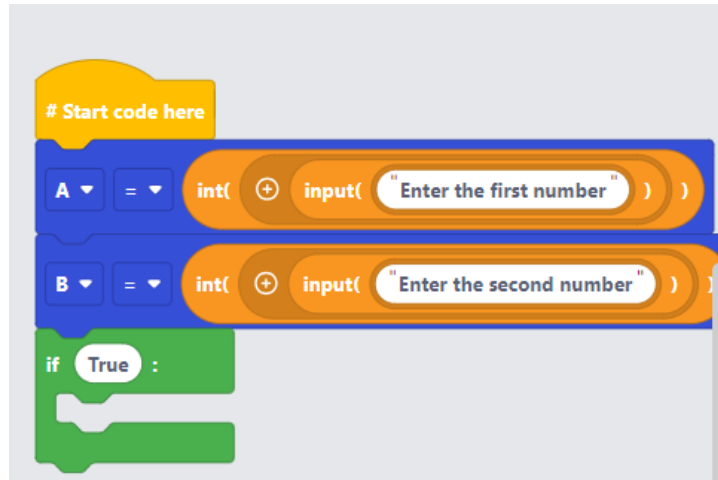
```
1 #Start code here
2 A = int(input("Enter the first number"))
3 B = int(input("Enter the second number"))
4
```

Create another variable with name 'B' the same way to store the second number

Program Step 6:-



Add an 'if' condition



Code

```
1 #Start code here
2 A = int(input("Enter the first number"))
3 B = int(input("Enter the second number"))
4 if True:
5     pass
6
```

Program Step 7:-

Text

Math

Logic

Lists

Loops

Definitions

Turtle

if True :

elif True :

else:

0 == 0

Start code here

A = int(input("Enter the first number"))

B = int(input("Enter the second number"))

if 0 == 0 :

Code

```
1 #Start code here
2 A = int(input("Enter the first number"))
3 B = int(input("Enter the second number"))
4 if 0 == 0:
5     pass
6
```

Add a comparison block to the 'if condition' to check what operation has user chosen

Program Step 8:-

The screenshot shows a Python IDE with a block-based editor on the left and a code editor on the right. The block-based editor has a sidebar with categories: Imports, Variables, Statements, and Text. The main workspace shows a 'Create variable...' block, a 'B = 0' block, and a red box highlighting 'A' and 'B' value blocks. The code editor shows the following code:

```
# Start code here
A = int(input("Enter the first number"))
B = int(input("Enter the second number"))
if A == B:
    pass
```

Add the 'A' value block to the left of the comparison block to compare the input given by user.

Add the 'B' value block to the right of the comparison block to compare the input given by user

Program Step 9:-



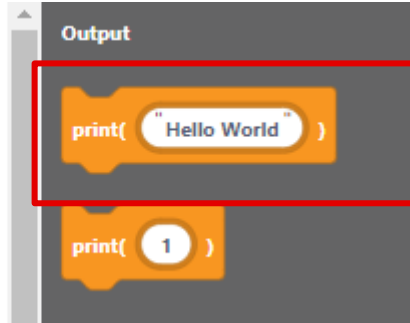
Imports



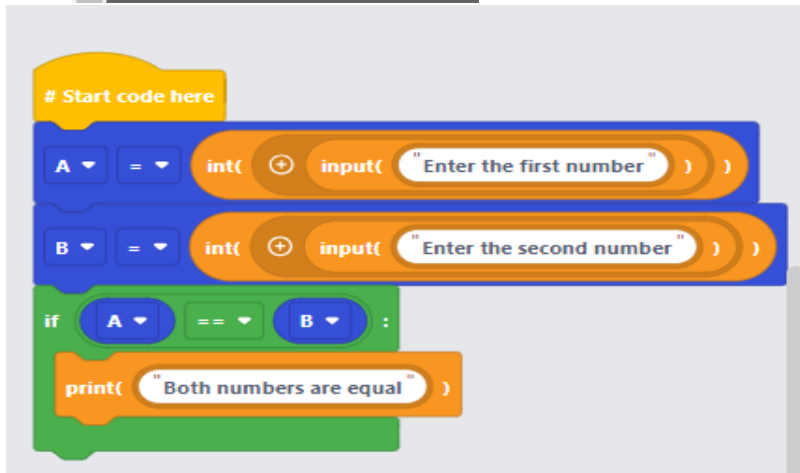
Variables



Statements



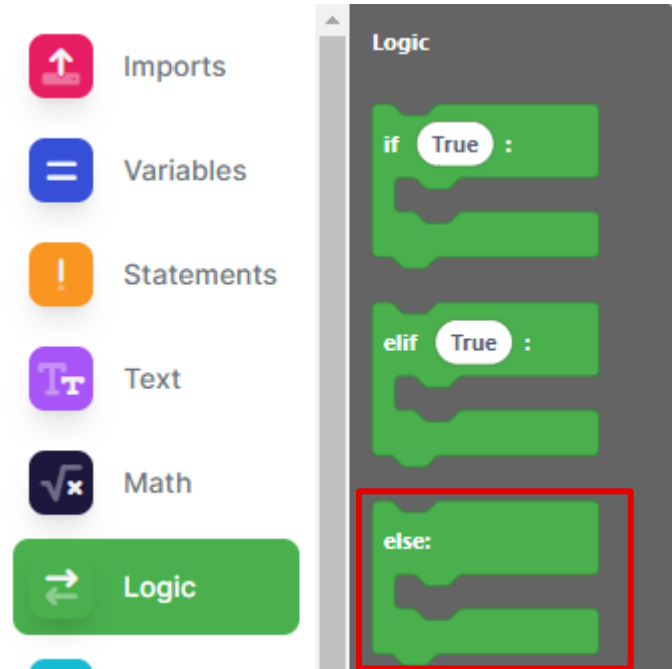
Connect print "Hello World" block and change the text to "Both A and B are equal"



Code

```
1 #Start code here
2 A = int(input("Enter the first number"))
3 B = int(input("Enter the second number"))
4 if A == B:
5     print("Both numbers are equal")
6
```

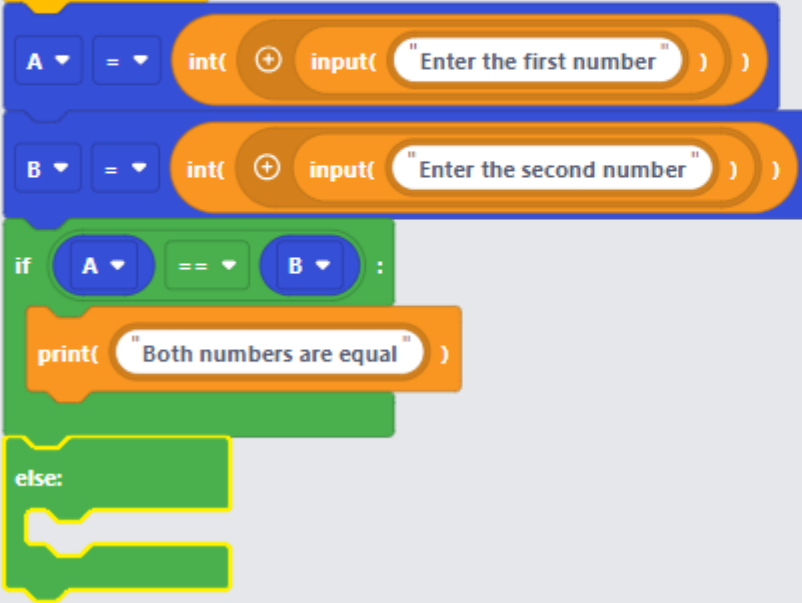
Program Step 10:-



Take a 'Else' block from the Logic

Program Step 11:-

Start code here



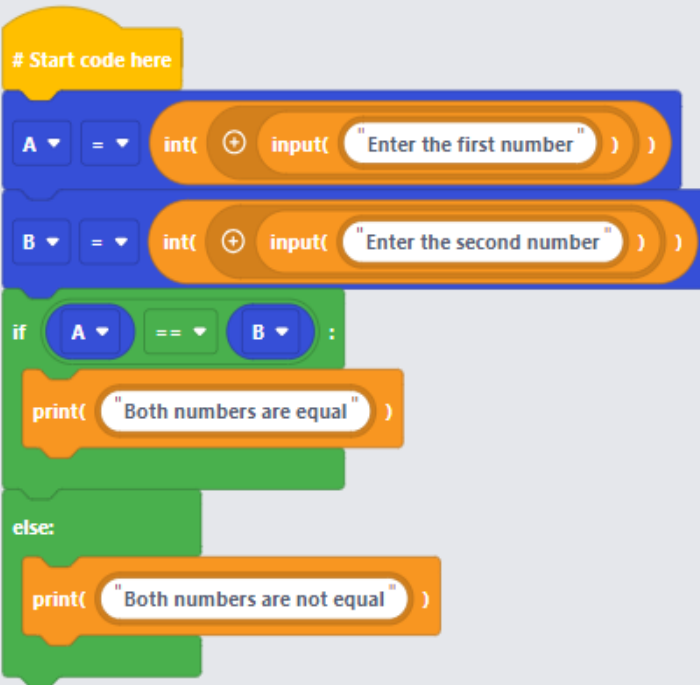
Code

```

1 #Start code here
2 A = int(input("Enter the first number"))
3 B = int(input("Enter the second number"))
4 if A == B:
5     print("Both numbers are equal")
6 else:
7     pass
8

```

Program Step 12:-



Code

```
1 #Start code here
2 A = int(input("Enter the first number"))
3 B = int(input("Enter the second number"))
4 if A == B:
5     print("Both numbers are equal")
6 else:
7     print("Both numbers are not equal")
8
```

Take a print
hello world
from the
statement and
connect it with
else block and
write both
numbers are
not equal

Output

Powered by  **trinket**

Enter the first number 10

Enter the second number 10

Both numbers are equal

Powered by  **trinket**

Enter the first number 4

Enter the second number 7

Both numbers are not equal

TASK 02:-

**</> WRITE A PROGRAM TO COMPARE VALUES
WITH PYTHON IF AND ELSE STATEMENT**


Program





Code

```
1 #Start code here
2 A = int(input("Enter the first number"))
3 B = int(input("Enter the second number"))
4 if A == B:
5     print("Both numbers are equal")
6 elif A > B:
7     print("1st number is greater")
8 elif A < B:
9     print("2nd number is greater")
10 else:
11     print("Both numbers are not equal")
12
```

Output

Powered by  **trinket**
 Enter the first number 56
 Enter the second number 65
 2nd number is greater

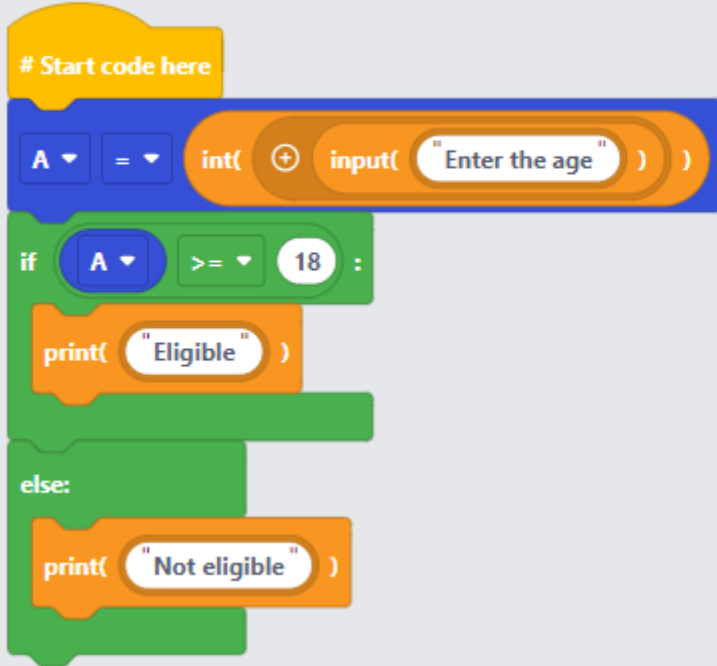
Powered by  **trinket**
 Enter the first number 76
 Enter the second number 67
 1st number is greater

Powered by  **trinket**
 Enter the first number 56
 Enter the second number 56
 Both numbers are equal

TASK 03:-

</> WRITE A PROGRAM TO CHECK WHETHER THE PERSON IS ELIGIBLE FOR VOTING OR NOT


Program





Code

```
1 #Start code here
2 A = int(input("Enter the age"))
3 if A >= 18:
4     print("Eligible")
5 else:
6     print("Not eligible")
7
```

Output

Powered by  **trinket**
 Enter the age 18
 Eligible

Powered by  **trinket**
 Enter the age 15
 Not eligible

Powered by  **trinket**
 Enter the age 50
 Eligible

ACTIVITY SHEETS

Question:1

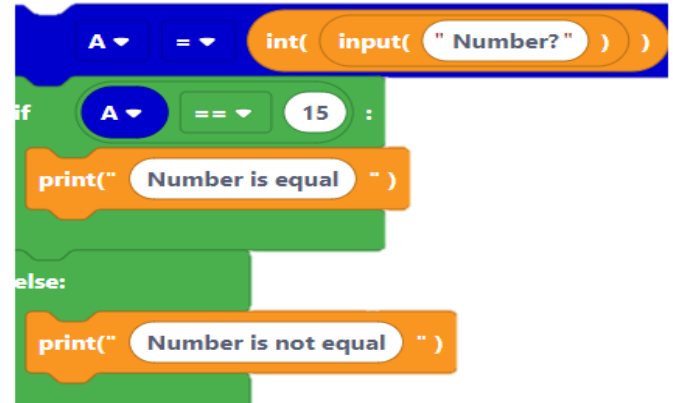
Which python operator means 'less than equal to'?

- A. <=
- B. >=
- C. ==
- D. !=

Question:2

What is the output of the following code if input is 16:

- A. Number is equal
- B. Number is not equal
- C. Number?
- D. None of the above



Question:3 The result of this program:

```
Friday = False
```

```
if Friday:
```

```
    print "Jeans day!"
```

```
else:
```

```
    print "Uniform day"
```

- A. Jeans day
- B. Uniform day
- C. Today is friday
- D. Not friday

Question:4

This operator means that one value is the same as the other value

- A. Equal to(=)
- B. Forward slash(\)
- C. Plus(+)
- D. Asterik(*)

Question:5

Which function is used to take the data from the user input

`print(" Hello World ")`

`print(Variable)`

`input(" What is your name?")`

`int(1)`

