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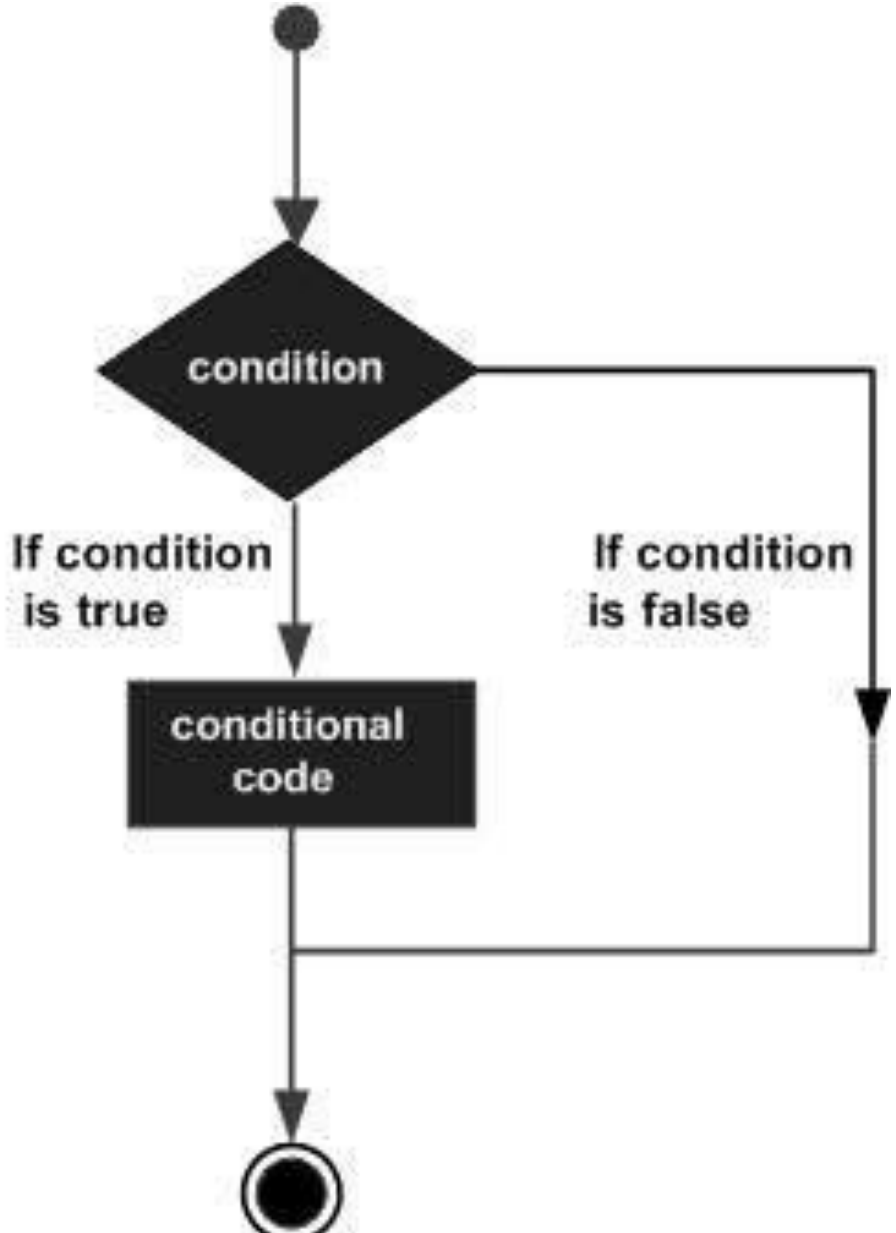
Python Programming

Decision Making

In python, decision making is performed by the following statements

- If Statement
- If - else Statement
- Nested if Statement


condition
If condition
is true
If condition
is false
conditional
code

one-line if clause

```
var = 100
if ( var == 100 ) : print ("Value of expression is 100“)
print ("Good bye!”)
```

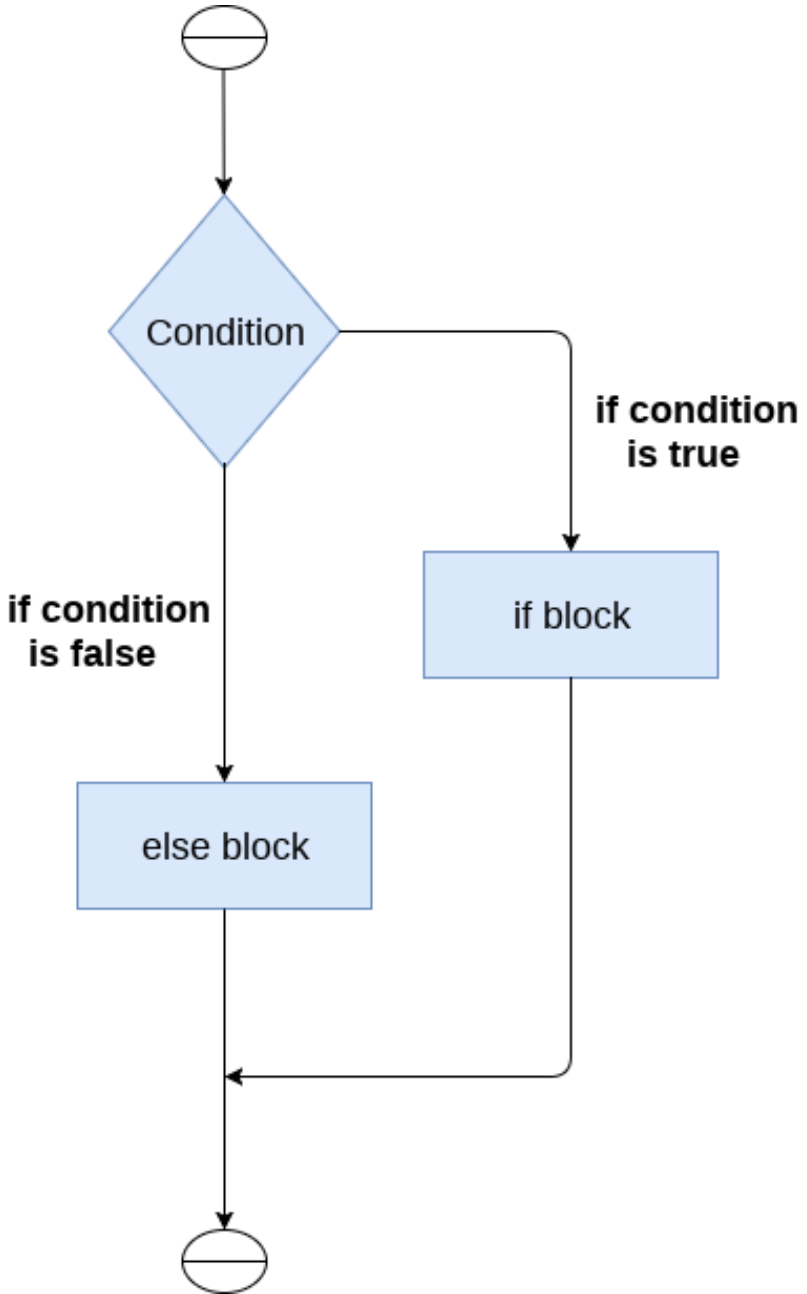
Or

```
var = 100
if ( var == 100 ) :
        print ("Value of expression is 100“)
print ("Good bye!)
```

Or

```
num = int(input("enter the number?"))
if num%2 == 0:
    print("Number is even")
```

The if-else statement



```
if condition:
    #block of statements
else:
    #another block of statements (else-block)
```

Eg:

```
num = int(input("enter the number?"))
if num%2 == 0:
    print("Number is even...")
else:
    print("Number is odd...")
```

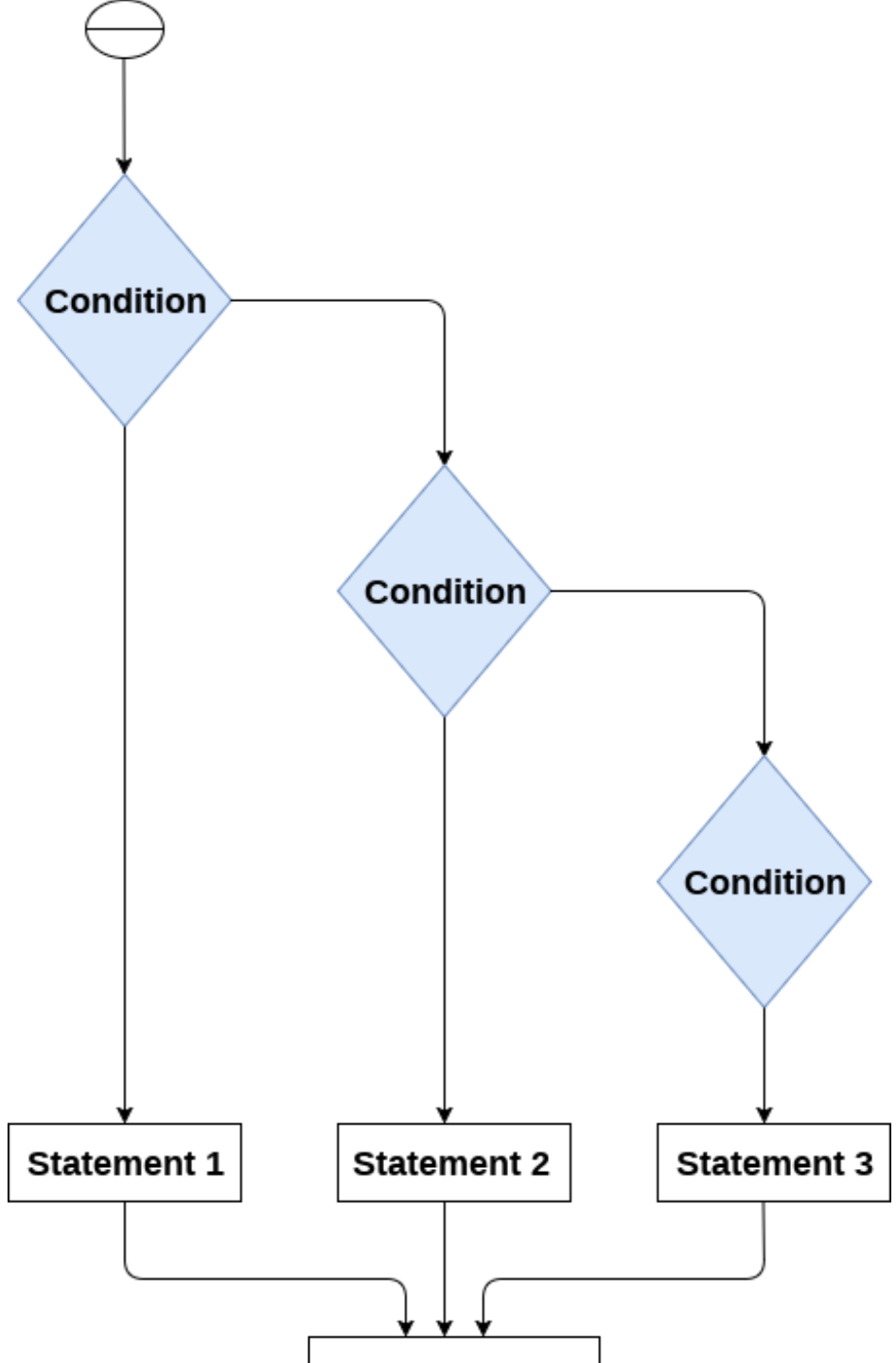
The elif statement

```
if expression 1:
    # block of statements

elif expression 2:
    # block of statements

elif expression 3:
    # block of statements

else:
    # block of statements
```


Condition
Condition
Condition
Statement 1
Statement 2
Statement 3

example

```
number = int(input("Enter the number?"))
if number==10:
    print("number is equals to 10")
elif number==50:
    print("number is equal to 50");
elif number==100:
    print("number is equal to 100");
else:
    print("number is not equal to 10, 50 or 100");
```

Short Hand If

- If you have only one statement to execute, you can put it on the same line as the if statement.
- Example
- One line if statement:

```
if a > b: print("a is greater than b")
```

Short Hand If ... Else

- If you have only one statement to execute, one for if, and one for else, you can put it all on the same line:
- Example
- One line if else statement:

```
a = 2
b = 330
print("A") if a > b else print("B")
```

Note: This technique is known as **Ternary Operators**, or **Conditional Expressions**.

You can also have multiple else statements on the same line:

- Example
- One line if else statement, with 3 conditions:

```
a = 330
b = 330
print("A") if a > b else print("=") if a == b else print("B")
```

or

```
If (a>b):
        print(“A”)
else:
        if(a==b)
                print(“=“)
        else:
                print(“B”)
```

Nested If

- You can have if statements inside if statements, this is called nested if statements.

```
x = 41

if(x > 10):
  print("Above ten,")
  if x > 20:
    print("and also above 20!")
  else:
    print("but not above 20.")
else:
Print(“not greater than 10”)
```