SNS College of Engineering

Department of Information Technology

Control Flow

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AP/IT

Control Structures

Conditional Structure

1. Sequential structure(if)
2. Selection structure/branching/decision making
   - **if** statement
   - **If..else** statement
   - **If..elif..else** statement
3. Repetition structure/looping/iterative
   - **while**
   - **For**

Unconditional Structure

- Break
- Continue
- Pass

IF statement(Conditional execution)

- The simplest form of if statement
- Syntax:

If expression:

Statement1

Statement 2

- Example:

1)a=5

If(a>10):

Print(“a is greater”)

2)if x > 0:

print 'x is positive'

IF Else statement(Alternative execution)

- It is alternative execution, in which there are two possibilities and the condition determines which one gets executed
- If expression:

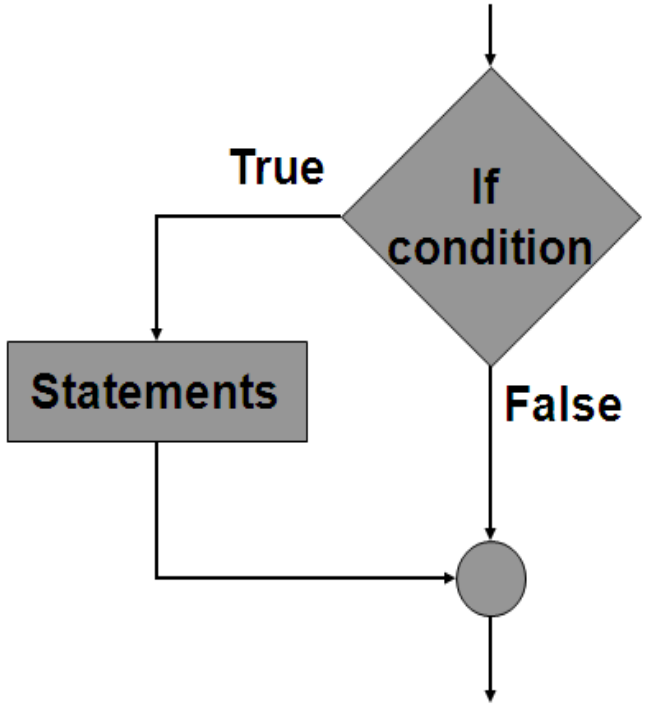
    Statement1

    Statement 2

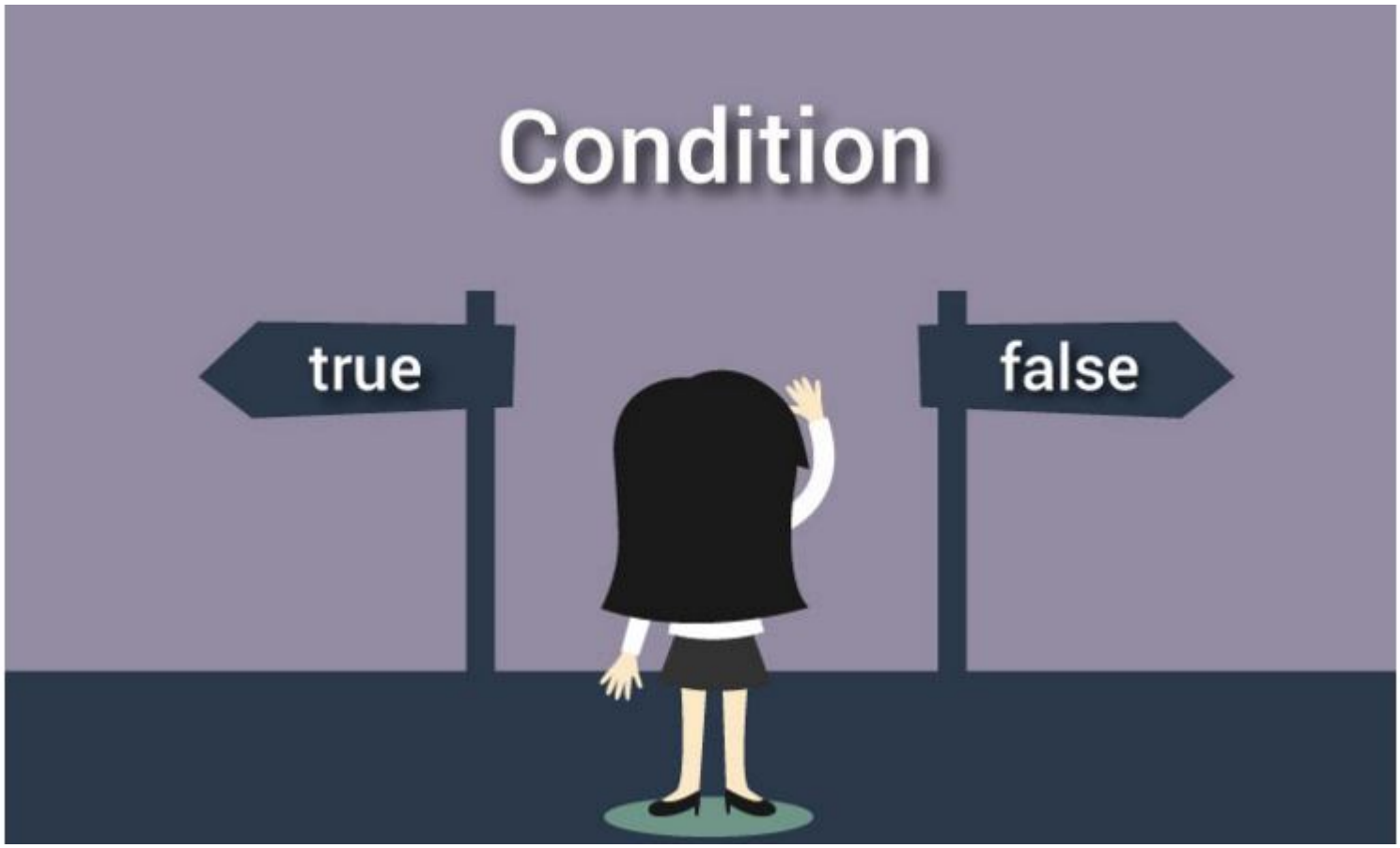
  else

    Statement3

    Statement 4



IF Else statement(Alternative execution)



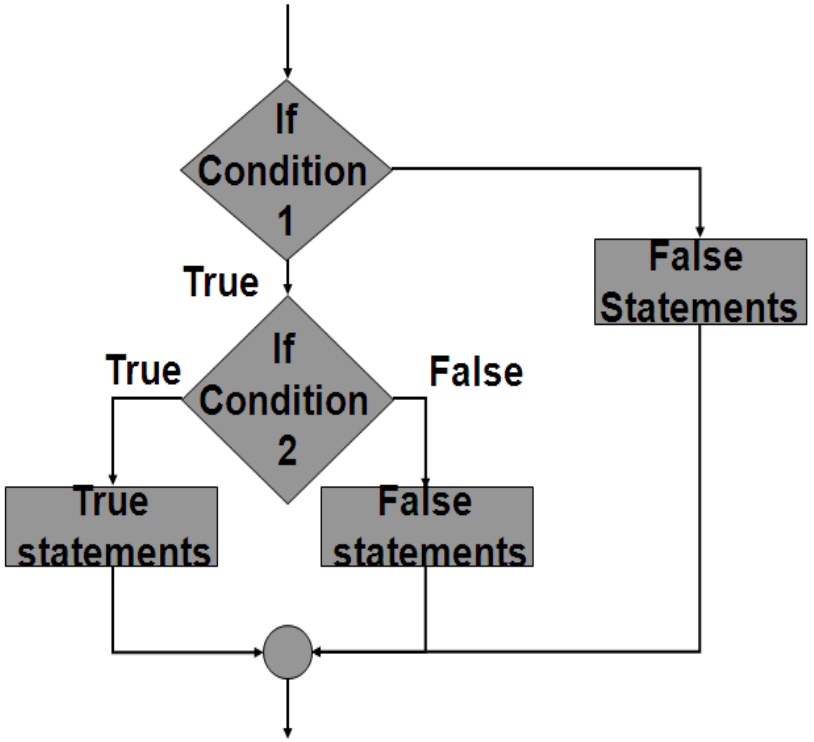
Program

```
1) temp=20
if temp<10:
    print(“it is bad:”)
else
    print(“it is good:”)
2) if x%2 == 0:
print 'x is even'
else:
print 'x is odd‘
```

- The condition must be true or false, exactly one of the alternatives will be executed.

If-elif-else(Chained conditionals)

- There are more than two possibilities and need more than two branches.
- Syntax
- If expression1:
    Statement1
    Statement 2
  elif expression2:
    Statement3
    Statement 4
  else expression3:
    Statement4



Program

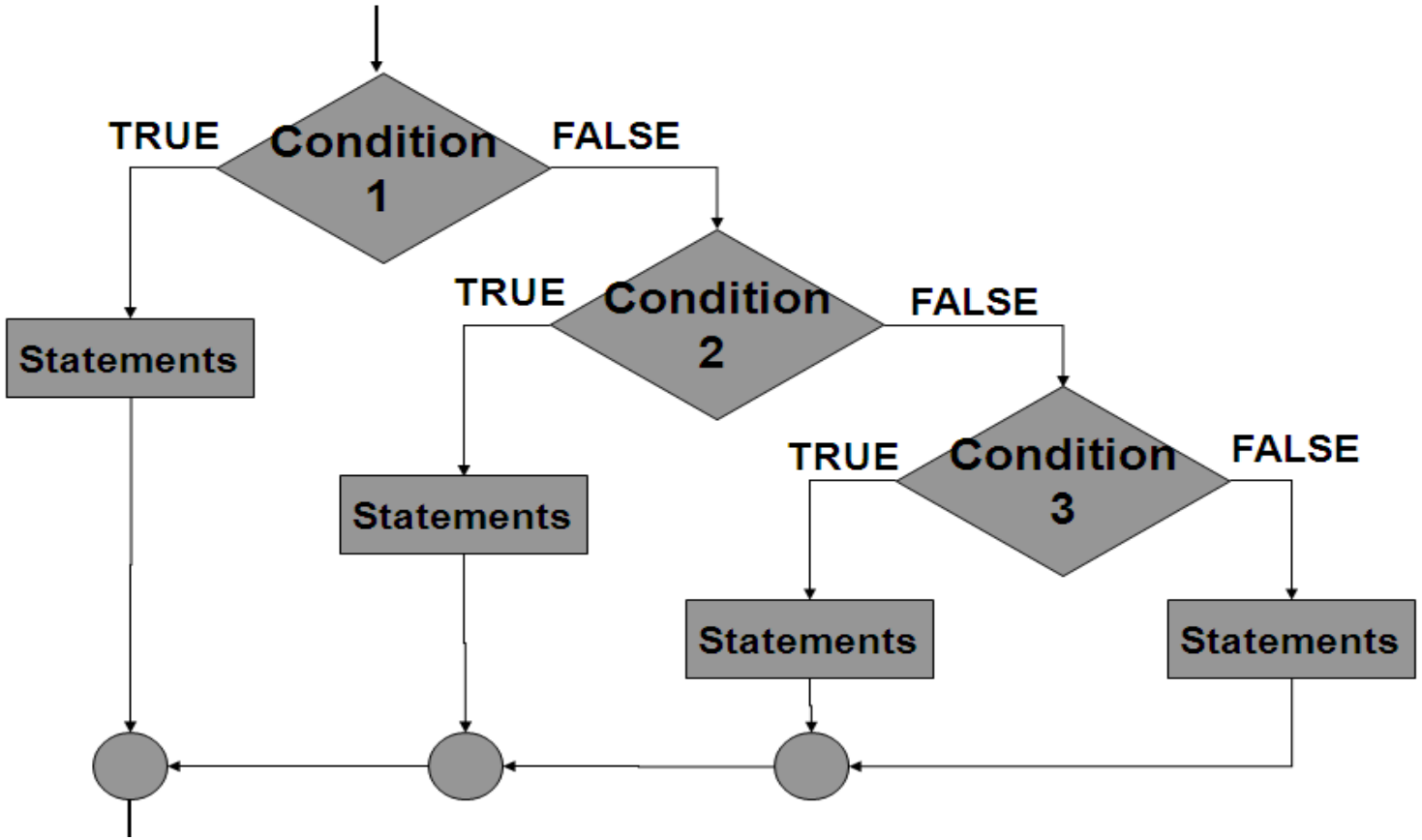
```
1)if x < y:
print 'x is less than y'
elif x > y:
print 'x is greater than y'
else:
print 'x and y are equal‘
```

```
2) if choice == 'a':
draw_a()
elif choice == 'b':
draw_b()
elif choice == 'c':
draw_c()
```

- Each condition is checked in order. If the first is false, the next is checked, and so on.
- If one of them is true, the corresponding branch executes, and the statement ends.
- Even if more than one condition is true, only the first true branch executes

Nested conditionals

- One condition nested within another



Program

```
if x == y:
print 'x and y are equal'
else:
if x < y:
print 'x is less than y'
else:
print 'x is greater than y'
```

```
number = 23
 guess = int(input('Enter an integer : '))
if guess == number: # New block starts here
 print('Congratulations, you guessed it.')
 print('(but you do not win any prizes!)')
 # New block ends here
 elif guess < number: # Another block
 print('No, it is a little higher than that') # You can do whatever you
     want in a block ...
else: print('No, it is a little lower than that') # you must have guessed >
     number to reach here
print('Done') # This last statement is always executed, # after the if
     statement is executed.
```

Thank You