- Write a program that asks the user to type in his or her age, and prints whether or not they are (legally) able to drink.
- Write a program that asks the user if they want to calculate the area of a square or a triangle. (The user will type in `square` or `triangle`.)
  - If they enter `square`, ask the user for the length of a side and print the area.
  - If they enter `triangle`, ask the user for the base and height and print the area.

Multiple tests at once

Multiple tests at once

```
if _________ and _________ :
    # do something
else:
    # do something else
```

Both individual tests must be **`True`** to make the entire if statement **`True`**.

Multiple tests at once

```
if _____ or _____ :
    # do something
else:
    # do something else
```

Either (or both) individual tests must be **`True`** to make the entire if statement **`True`**.

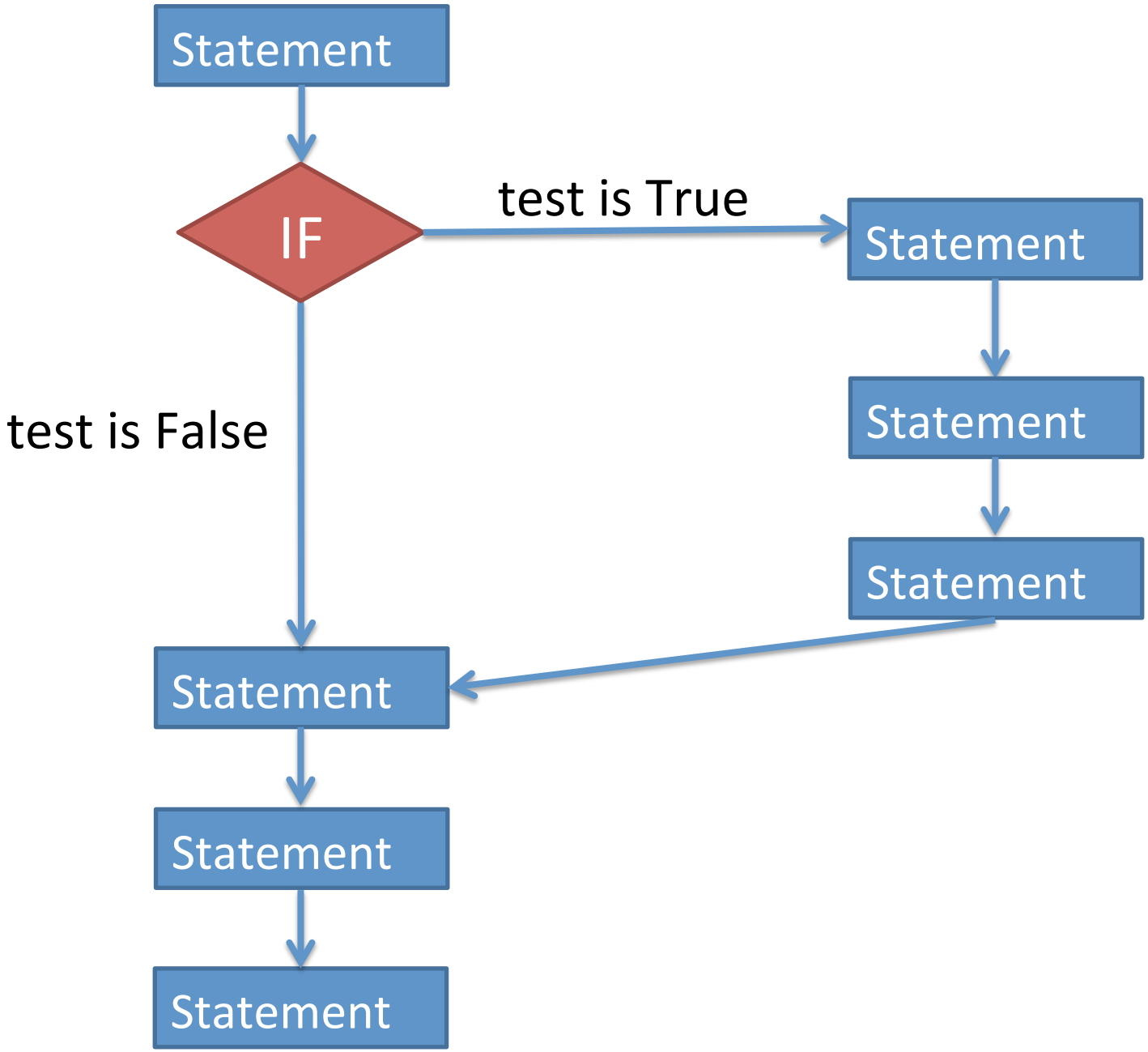
TN passes a new law that says you can't drink once you reach the age of 80.

```
age = int(input("What is your age? "))
if _____ :
  print("You may drink!")
else:
  print("You can't drink!")
```

You're writing an app that monitors the thermostat in your house and alerts you if the house temperature drops to 50 degrees or rises to 90 degrees.

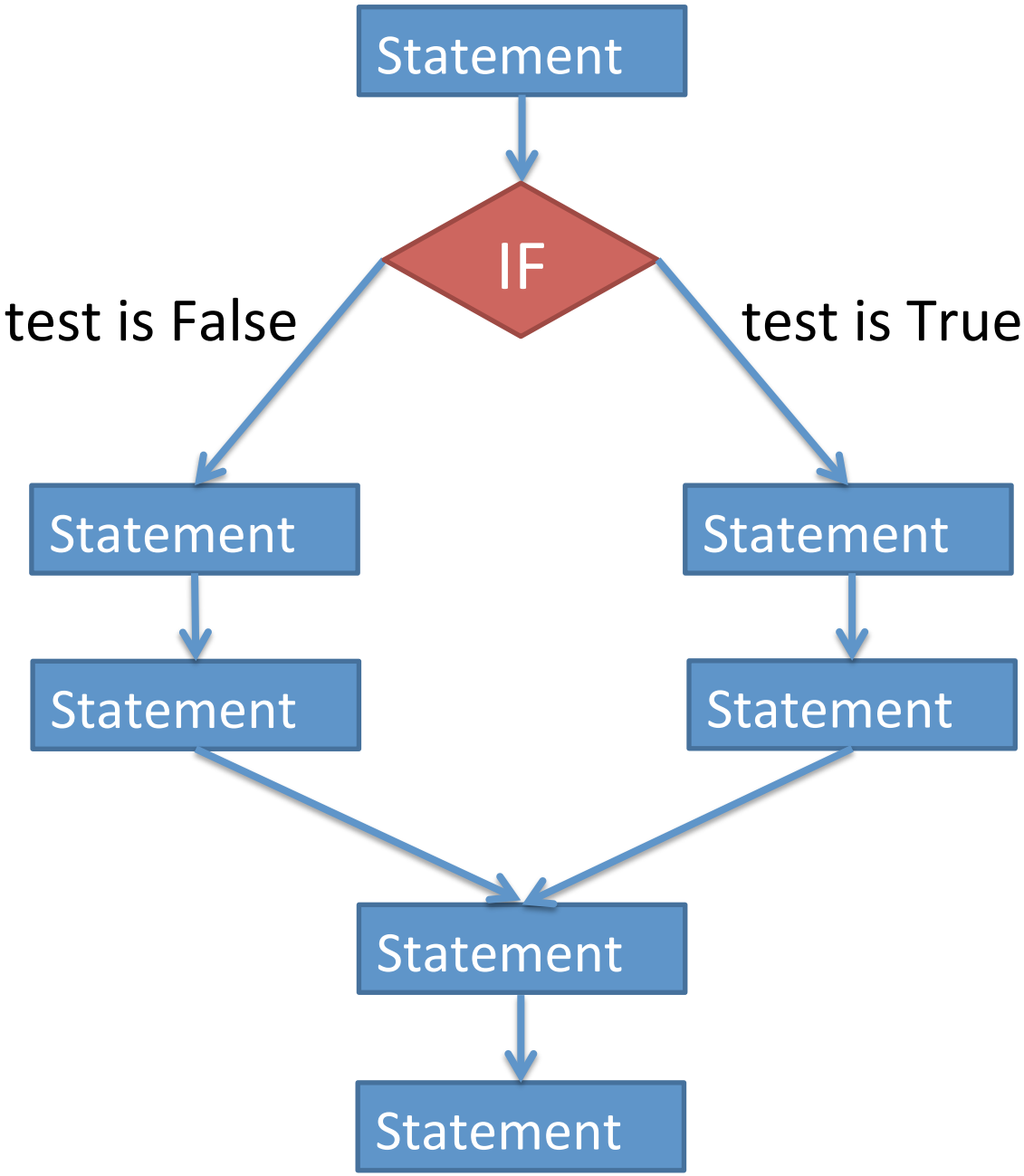
```
temp = read temperature somehow…
if _____ :
  # send a temperature alert here
  print("It's uncomfortable in here!")
```

Comparison of if vs if-else

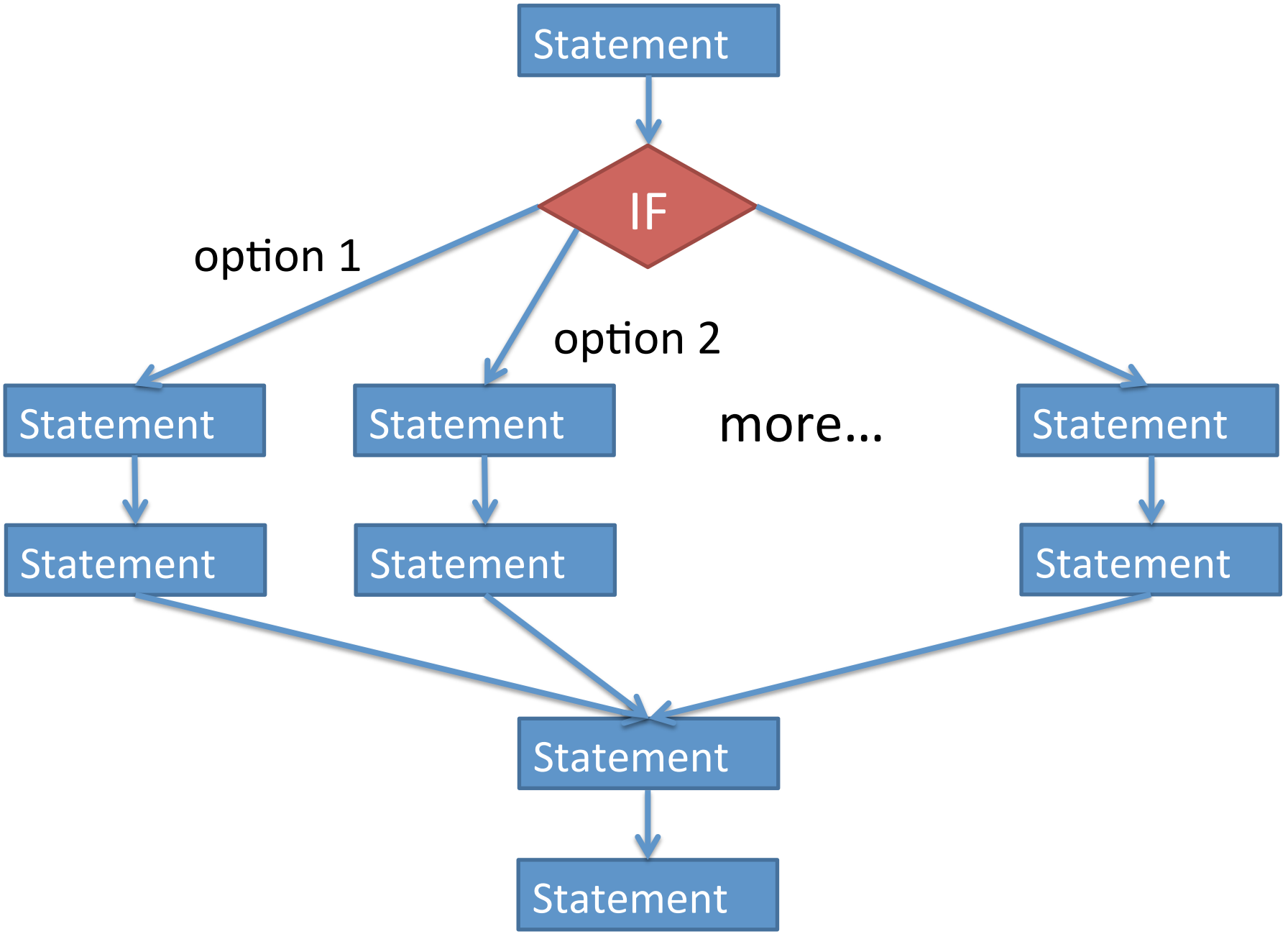

Statement
IF
test is True
Statement
Statement
Statement
test is False
Statement
Statement
Statement

```
if    test    :
    statement
    statement
    more statements…
statement
statement
more statements…
```

The *test* must be something that is True or False.


Statement
IF
test is False
test is True
Statement
Statement
Statement
Statement
Statement
Statement

```
if    test    :
    statement
    more statements…
else:
    statement
    more statements…
more statements…
```


Statement
IF
option 1
option 2
Statement
Statement
more...
Statement
Statement
Statement
Statement
Statement
Statement

```
if   test   :
    statements…
elif   test2   :
    statements…
elif   test3   :
    statements…
(etc)
else:
    statements…
```

- Python runs each test in order, top to bottom.
- Once a test is found that is True, the corresponding statements are run, *and the rest of the tests and statements are ignored.*

```
x = 5
if x < 2:
  print("X")
elif x < 6:
  print("Y")
elif x < 10:
  print("Z")
```

Let's say a class has a grading scale of:

A = 90 and above

B = 80-89

C = 70-79

D = 60-69

F = below 60

- Edit your shape program to add in a third shape (e.g., circle, rectangle, trapezoid…) The program should print an error message if the user enters a shape your program doesn't support.
- Create a program that asks the user when their birthday is (month and day of month as ints). Then print a message telling if their birthday has passed this year, is yet to come this year, or is today.