Iteration

Chapter 7

Reassignment

```
x = 5
x = 7
```

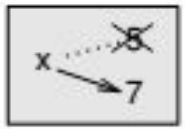

Figure 7.1: State diagram.

```
a = 7
7 = a
```

```
a = 5
b = a      # a and b are now equal
a = 3      # a and b are no longer equal
```

Updating Variables

```
x = x + 1
```

The `while` Statement

```
def countdown(n):
    while n > 0:
        print(n)
        n = n - 1
    print(' Blastoff! ' )
```

Flow of Execution for `while`

1. Determine whether the condition is true or false.
2. If false, exit the while statement and continue execution at the next statement.
3. If the condition is true, run the body and then go back to step

break

```
while True:
    line = input(' > ' )
    if line == ' done' :
        Break
    print(line)

print(' Done! ' )
```

Algorithm

- A mechanical process
  for solving a category of problems