CHAPTER 3: Decision Structures and Boolean Logic

3.6 Boolean Variables

A Boolean variable can reference one of two values: `True` or `False`.

In addition to int, float, and str (string) variables, Python provides a bool data type. The bool data type variables provide reference to one of two possible values: True or False.

Example:

```
hungry = True
sleepy = False
```

Boolean variables used as flags

A flag is a variable that signals when some condition exists in the program. When the flag variable is set to False, it indicates the condition does not exist. When the flag variable is set to True, it means the condition does exist.

Example:

Let suppose a salesperson has a quota of $50,000. Assuming sales references the amount that the salesperson has sold, the following code determines whether the quota has been met:

```
if sales >= 50000.0:
    sales_quota_met = True
else:
    sales_quota_met = False
```

The sales_quota_met variable can be used as a flag to indicate whether the sales quota has been met.

The flag can be used in the program in the following way:

```
if sales_quota_met:
     print('You have met your sales quota!')
```

This code displays 'You have met your sales quota!' if the bool variable `sales_quota_met` is True.

We do not have to use the == operator to explicitly compare the `sales_quota_met` variable with the value True. This code is equivalent to the following:

```
if sales_quota_met == True:
    print('You have met your sales quota!')
```