Problem 1

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Problem 1-1

1.0 point possible (graded)

Suppose `x = "pi"` and `y = "pie"`. The line of code `x, y = y, x` will swap the values of `x` and `y`, resulting in `x = "pie"` and `y = "pi"`.

- `True`
- `False`

Submit You have used 0 of 1 attempt

Problem 1-2

1.0 point possible (graded)

Suppose `x` is an integer in the following code:

```
def f(x):
    while x > 3:
        f(x+1)
```

For any value of `x`, all calls to `f` are guaranteed to never terminate.

- True
- False

Submit You have used 0 of 1 attempt

Problem 1-3

1.0 point possible (graded)

A Python program always executes every line of code written at least once.

- True
- False

Submit You have used 0 of 1 attempt

Problem 1-4

1.0 point possible (graded)

Suppose you have two different functions that each assign a variable called `x`. Modifying `x` in one function means you always modify `x` in the other function for any `x`.

- True
- False

Submit You have used 0 of 1 attempt

Problem 1-5

1.0 point possible (graded)

The following code will enter an infinite loop for all values of `i` and `j`.

```
while i >= 0:
    while j >= 0:
        print(i, j)
```

- True
- False

Submit You have used 0 of 1 attempt

Problem 1-6

1.0 point possible (graded)

It is always possible and feasible for a programmer to come up with test cases that run through every possible path in a program.

- True
- False

Submit You have used 0 of 1 attempt

Problem 1-7

1.0 point possible (graded)

Assume `f()` is defined. In the statement `a = f()`, `a` is always a function.

- True

False

Submit You have used 0 of 1 attempt

Problem 1-8

1.0 point possible (graded)

A program that keeps running and does not stop is an example of a syntax error.

True

False

Submit You have used 0 of 1 attempt

Problem 1-9

1.0 point possible (graded)

Consider the following function.

```
def f(x):
    a = []
    while x > 0:
        a.append(x)
        f(x-1)
```

A new object of type list is created for each recursive invocation of `f`.

True

False

Submit You have used 0 of 1 attempt

Problem 1-10

1.0 point possible (graded)

A tuple can contain a list as an element.

True

False

Submit You have used 0 of 1 attempt