Eric Lin
CS 100 2022F Section 009
HW 01, September 15th, 2022

Exercise 1.1

1.) In a print statement, what happens if you leave out one of the parentheses, or both?

In a print statement, if you leave out one of the parentheses, there will be a syntax error calling for another parenthesis. However, if you leave out both in Python 2, it should run fine as Python 2 does not require parentheses in a print statement, only quotations. On the other hand, in Python 3, both parentheses and quotations are required for print statements.

2.) If you are trying to print a string, what happens if you leave out one of the quotation marks, or both?

If you are trying to print a string and you omit a quotation mark, there will be a syntax error as the interpreter will not know where your string started or where the end of your given string is. However, if you leave both quotation marks out, it will also be a syntax error as all strings must be enclosed by quotations.

3.) You can use a minus sign to make a negative number like -2. What happens if you put a plus sign before a number? What about 2++2?

If you put a plus sign before a number, the Python interpreter will interpret it as a positive 2. Thus, if you type down 2++2, the result will be 4 as it will be interpreted as 2 plus positive 2.

4.) In math notation, leading zeros are ok, as in 09. What happens if you try this in Python? What about 011?

In Python 2, leading zeros would not cause any syntax error; however, they would be printed out without the leading zeros. On the other hand, in Python 3, there would be a syntax error for leading zeros.

5.) What happens if you have two values with no operator between them?

If you have two values with no operators between them, there would be a syntax error.

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Exercise 1.2

1. How many seconds are there in 42 minutes 42 seconds?

```
>>>
====== RESTART: /Users/ericlin/Desktop/Python/CS100-009/HW1/HW1_EricLin.py =====
2562 seconds
>>>
```

2. How many miles are there in 10 kilometers? Hint: there are 1.61 kilometers in a mile?

```
>>>
====== RESTART: /Users/ericlin/Desktop/Python/CS100-009/HW1/HW1_EricLin.py =====
6.211180124223602 miles
>>>
```

3. If you run a 10 kilometer race in 42 minutes 42 seconds, what is your average pace (time per mile in minutes and seconds)? What is your average speed in miles per hour?

```
>>>
====== RESTART: /Users/ericlin/Desktop/Python/CS100-009/HW1/HW1_EricLin.py =====
6.874700000000002 minutes per mile
>>>
```

6 minutes, 52 seconds

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Exercise 2.1

1. We've seen that n = 42 is legal. What about 42 = n?

42 = n would be a syntax error since assignment is read right to left. For example, n = 42 is read as 42 being stored into n.

2. How about x = y = 1?

x = y = 1 is syntactically correct and would assign the integer 1 to both the variables x and y.

3. In some languages every statement ends with a semicolon, ;. What happens if you put a semicolon at the end of a Python statement?

Nothing significant occurs when you use a semicolon at the end of statements in Python. Python can be entirely semicolon free, however semicolons can be used to mark the end of command statements. For example, having two print statements on one line can be done if separated by a semicolon.

4. What if you put a period at the end of a statement?

At least for Python 3.7, putting a period at the end of a statement will cause a syntax error.

5. In math notation you can multiply x and y like this: xy. What happens if you try that in Python?

If you try to use xy in Python as multiplication, it will throw a syntax error as it will interpret xy as a variable instead of an operation. If xy is defined, then no syntax error will be thrown.

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Exercise 2.2

1. The volume of a sphere with radius r is 4/3 π r3. What is the volume of a sphere with radius 5?

```
>>>
====== RESTART: /Users/ericlin/Desktop/Python/CS100-009/HW1/HW1_EricLin.py =====
523.5987666666666 units^3
>>>
```

2. Suppose the cover price of a book is $24.95, but bookstores get a 40% discount. Shipping costs $3 for the first copy and 75 cents for each additional copy. What is the total wholesale cost for 60 copies?

```
>>>
====== RESTART: /Users/ericlin/Desktop/Python/CS100-009/HW1/HW1_EricLin.py =====
945.4499999999999 dollars
>>>
```

$945.50

3. If I leave my house at 6:52 am and run 1 mile at an easy pace (8:15 per mile), then 3 miles at tempo (7:12 per mile) and 1 mile at easy pace again, what time do I get home for breakfast?

```
>>>
====== RESTART: /Users/ericlin/Desktop/Python/CS100-009/HW1/HW1_EricLin.py =====
07:29:58am
>>>
```