Lab 3.2 Fun with numbers

Introduction.

I would suggest that you create the directory "week03". For the file names, I put the prefix lab3.2.X- in front of each of the solutions so that they are in order in the directory, you can do that as well if you wish.

Built in functions with numbers

1. Write a program called round.py. The program take in a float and outputs an int (rounded up or down)

```
Enter a float number:-5.99
5.99 rounded is 6
```

Answer

```
# rounds a number
# be careful of round, it rounds to the nearest even number
# eg 4.5 rounds to 4
# but 5.5  rounds to 6
# so do not use it accuracy is essential
# Author: Andrew Beatty

numberToRound = float(input("Enter a float number:"))
roundedNumber = round(numberToRound)
print ( '{} rounded is {}'.format(numberToRound,roundedNumber))
```

2. Write a program (absolute.py) that takes in number and give its absolute value (ie -4 or 4 would both output 4)

```
Enter a number:-4
The absolute value of -4.0 is 4.0
```

Answer

An example of a comment which lets me know what you were thinking while writing the code.

```
# Give the absolute value of a number
#
# Author: Andrew Beatty

# In the question, number is ambiguous but the
# output implies that we should be dealing with floats
# So I am casting the input to a float
number = float(input("Enter a number:"))
absoluteValue = abs(number)
print('The absolute value of {} is {}'.format(number, absoluteVal
ue))
```

3. Write a program (floor.py), that takes in a float and outputs an int rounded down, you will need the math module math.floor()

```
Enter a float number:-5.99
5.99 floored is 5
```

```
# floors a number.
#
# Author: Andrew Beatty
import math

numberTofloor = float(input("Enter a float number:"))
flooredNumber = math.floor(numberTofloor)
print('{} floored is {}'.format(numberTofloor, flooredNumber))
```

Extra I will not give the answer

4. I am writing an application at the moment, in it I take an input of an amount in the form -9.44 (9 dollars and 44 cent), the issue there may or may not be a minus sign, and the bank takes in the amount in cent, (944). Write a program called convert.py that takes in a float amount of dollars, and returns that absolute amount in cent.

```
Please enter am amount:-5.99
That amount in cent is :599
```