day14 mileage
Due: Monday 9/12/22

Today's assignment: Write a program that helps the user calculate the cost of going on a trip. First, ask the user where they are headed. Ask the user the current cost of gas, how efficient their car is in miles per gallon (mpg), and how long their journey is in miles, then print some facts about their trip.

Sample output is here (feel free to be creative with the text, but get the same functionality):

```
Welcome to the trip cost calculator.

Please state your destination: Portola Valley
Enter gas price per gallon: 4.59
Enter the miles per gallon efficiency of your car: 49
Finally, enter the distance you will travel: 200

Thanks. Now here are some facts for you:

Your trip to Portola Valley will require 4.081632653061225 gallons of gas.
The fuel will cost approximately 18.73469387755102 dollars.

Calculate another? (y/n)n
```

You know how to do almost all of this already. Open your old programs to get ideas if you are stuck.

What you don't know is how to have the user enter the gas price with a decimal (when we do an input call using an int() call Python crashes if you enter a decimal number.) To do today's assignment you need to use a **float** variable for the price, because gas prices are rarely whole numbers. The float type of variable can contain a decimal number. Here is how to do this:

```
price = float(input(" Enter gas price per gallon: "))
```

Now you can use the variable "price" like any other variable, it's just a decimal number. **Use the line I gave you in your program!** Only make the gas price a float, the other numbers should be integers.

Your next question might be: how do I calculate the amount of gas required and how do I figure out the cost? Well… if you have a float variable **price** (cost of 1 gallon of gas), an int variable **mpg** (how many miles per gallon the car gets), and an int variable **distance**, you can find the amount of gas you need like this:

```
gas_needed = distance/mpg
```

You can calculate the trip cost like this:

```
trip_cost = gas_needed*price
```

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Checklist:

- Name your program day14 mileage and put your name in a comment at the top of your program.
- Ask user for a destination name.
- Ask user for the gas price as a float variable.
- Ask user for miles per gallon (mpg) efficiency of their car as an int.
- Ask user for miles to be traveled as an int.
- Print out a message that includes their destination, how many gallons they will use and the approximate cost of the gas.
- Ask the user if they want to run again.
- Copy an example run from your program and paste it at the end of your code between sets of triple quotes so that I can see that you tested it.

The most common mistake I've been seeing lately is people with the wrong number of parentheses in input lines like this:

```
price = float(input("Please enter the price of gas per gallon: ")
```

What is wrong with that line is that you need two close parens) on the far right like this:

```
price = float(input("Please enter the price of gas per gallon: "))
```

For reasons that only the creators of Python know, when you leave off the second parenthesis, Python tends to complain about the NEXT line.

Extra credit:

If you'd like to add other features, consider adding a line that says how long the drive will take if you are driving at 65 miles per hour. This is optional, but I'll give you extra credit if you do this. If you do this, include a run showing this feature in your sample output.