```
"Cat" + 3

"Cat".upper()
"Cat".lower()

"the lord of the rings".title()
```

What is the output for each one and why?

One of them causes an exception. Read the exception message. What do you think it means?

Exercise 1.4

In a new Python **file** called **cat_food.py**, create a program that calculates how many cans of cat food you need to feed 10 cats

Your will need:

1. A **variable** for the number of **cats**
2. A **variable** for the number of **cans** each cat eats in a day
3. A **print()** function to output the result

Extension: change the calculation to work out the amount needed for 7 days

Exercise 1.5

Rewrite **cat_food.py** to use string formatting instead of joining strings with **+**.

An example of string formatting:

```
user_name = 'sarah_1987'
age = 23

output = '{} is {} years old'.format(user_name, age)
print(output)
```

Session 2 Exercises

Exercise 2.1

Write a program that asks two questions using **input()** then prints the values that were

entered. You can choose any questions that you want.

Example:

```
animal = input('Do you like dogs or cats more? ')
pet_name = input('What would name your pet? ')

print('You like {} and you would name your pet {}'.format(animal,
pet_name))
```

Exercise 2.2

You have friends at your house for dinner and you've accidentally burnt the lasagne. Time to order pizza.

Write a program to calculate how many pizzas you need to feed you and your friends

```
friends = # Add input here
pizzas = friends * 0.5

print('You need {} pizzas for {} friends'.format(pizzas, friends))
```

Exercise 2.3

Create a new file called **triangle.py**. Using **turtle** draw a triangle.

A triangle has **three** sides and an angle of **120** degrees

Extension 1: Make the triangle blue

Extension 2: Draw a circle

Exercise 2.4

In this exercise you'll create a program that can draw shapes with any number of sides.

When you run the program it will ask you to input the number of sides that the shape should have. The program will then calculate the correct angle for the shape and draw it for you.

I've started the program for you:

```
import turtle

sides = int(input('Number of sides: '))

angle = 360 / sides
side_length = 60

# Add the for loop here
turtle.forward(side_length)
turtle.right(angle)

turtle.done()
```

Extension 1: Draw a spiral.

Extension 2: Write code that draws a circle using a for loop

Exercise 2.5

Create a function that draws a triangle using turtle.

Extension: Write a function that draws a circle

Exercise 2.6

Modify your triangle function so that you can set the **side length** using an argument

Extension: Use a second argument to set the **colour** of the triangle

Exercise 2.7

Complete the function to return the area of a circle

Use the comments to help you

```
def circle_area():  # add the radius argument inside the brackets
    area = 3.14 * (radius ** 2)
    # return area here


circle_1 =  circle_area(10)
```

```
print(circle_1)
```