

Story time

Create interactive fairy tales and other stories with basic Python

Python



Step 1 Introduction

What you will make

You will use Python to create a program that generates a random story, based on what the user types in.

 complete project

What you will need

Hardware

- A computer that is connected to the internet

OR

- A computer that runs Python 3

Software

- **Python 3** (<https://www.python.org/downloads/>), or **Trinket online** (<https://trinket.io/>)

Downloads

Find **the starter project here** (<https://trinket.io/python/a0aaa62eab>).

What you will learn

- How to receive user input in Python
- Why and when you need to convert strings to integers
- How to use Python code to select random items from a list



Additional information for educators

You can **find the solution for this project here** (<http://rpf.io/p/en/storytime>).

Step 2 Make your story interactive

Open the starter project. 

Online: open the Trinket starter project at rpf.io/storytimeon (<http://rpf.io/storytimeon>).

Offline: download the **starter project** (<http://rpf.io/p/en/storytime-go>) and open it in a text editor

If you need to download and install Python, download it from rpf.io/pythonoff (<http://rpf.io/pythonoff>).

In the starter project, you should see a single line of code:

```
from random import choice
```

The purpose of the story time program is to generate a story, and print the story to the screen so that you can read it. So first, learn how to use the Python `print` function.

In your `storytime.py` file, type the following code on a new line: 

```
print("We are going to hear a story about a  
dragon!")
```

Run the program to see what happens. You should see the words "We are going to hear a story about a dragon!" appear in the output display.



Now that you can print to the screen, you're ready to ask the user for input, to learn more about the dragon.

Create a new variable called `name`. Use the `input` function to ask the user for the dragon's name. Store the input name in the new `name` variable.



Run your code again to test whether the program asks for input.



Now that you have the name of the dragon, use the `name` variable to print the name to the screen. In Python, you can use the `+` operator to join strings together.

Add another line of code to print the name of the dragon to the screen. Then run your code.



Step 3 **Big or small, old or young**

It's time to get some more information about the dragon.

Add `input` and `print` functions to find out:



1. Whether the dragon is **big** or **small**
2. How old the dragon is

Here's the full code that you need to ask for the dragon's size and age.

Now that you know the age of the dragon, you can work out whether it is young or old. Dragons live for a long time, so they are only considered old if they are older than 1000.

You can use **conditional selection** to work out whether the dragon is young or old. With the `if` and `else` statements, you can make decisions in your Python program. With the **greater than** operator (`>`), you can test whether a number is larger than another number.

Add some code to work out whether the dragon is young or old. You need to **type cast** the `age` variable so that the computer knows it is a **number** and not a **character string**. This is important because for the Python language, there is a big difference between the **characters** `1 0 0` and the **number** `100`. 

Add another `print` statement to tell the user whether the dragon is young or old. Then add two more `print` statements to create a break before the story begins. 

Step 4 Lists of details

Your story time program will generate a lot of the story at random. That's part of the fun! You need to create some lists to store different and funny words that the final program can choose random items from for the story.

Lists can be named in the same way as variables. For example, to create a list called `numbers` with four items in it, you could use the line `numbers = ["zero", "one", "two", "three"]`.

Underneath the last line of code in your program, leave a line blank and then create a list of things that the dragon can interact with. Either use the same list that is shown here, or add different items to the list. 

Now you need some more lists:

- A list for the names of the dragon's **friends**
- A list for **actions** such as "kiss", "throw", and "steal"
- A list for **places** such as "Middle Earth" and "Narnia"

Make three more lists that have the names **friends**, **actions**, and **places**. 

Here is what your completed code should look like:

Step 5 Choose your story details

Now that you have lists of actions, places, things, and friends, write some code that randomly picks one item from each list. This will help generate your story, and should make it quirky!

Add in another line of code to create a variable called **friend**. Then assign the new variable a random item from the **friends** list. 

Now use the **friend** variable in a **print** function. Each time you run the code, the variable should be randomly assigned a new item from the **friends** list. 

Create three more variables called **action**, **place**, and **thing**. Assign them random items from the **actions**, **places**, and **things** lists. 

Step 6 Tell your story

Now you can have some fun with creating your story! Be as imaginative and creative as you like.

Write this part of the program all on one line.

First, type `story =` to create a variable to store your story in.



Now use all the variables you have to make an imaginative story of your own. There is an example provided below, but you can make any story you like.

Write your story putting the variables together. Then on the last line of your program, print the story to the screen.



Challenge!

Challenge: add more details

Make your story even more interesting by adding some more lists with items that your program can pick from.

For example, you could create a list of `enemies` or `heroes`. Or give the dragon more detail: you could create a list called `colours` that decides what colour skin the dragon's scales are, or a list called `breath` that determines whether the dragon breathes fire, steam, or frost.

Your story can be as long as you like, and the only limit is your imagination!

Step 7 What next?

We have lots of Python projects for you to try. Go choose one of **these Python projects** (<https://projects.raspberrypi.org/en/projects?software%5B%5D=python&curriculum%5B%5D=%201>) now!

You could also recreate your story in Scratch, and add some graphics and animations to it.

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View project & license on GitHub (<https://github.com/RaspberryPiLearning/storytime>)