

Developers Institute

Python Course

Week 1

Day 1

- Introduction to programming
- IDLE
- Numbers and strings
- Variables
- `str()` - convert to string
- running a file from IDLE
- get user input
- `int()`
- `format()` - simplify string formatting

Exercises

Group Exercise 1 – Simple Greeter

1. Create a variable called 'name', and give it your name as a value (text)
2. Create a variable called 'age', and give it your age as a value (number)
3. Create a variable called 'shoe_size', and give it your shoe size as a value (number)
4. Create a variable called 'info'. Its value should be an interesting sentence about yourself, including your name, age, and shoe size. Use the variables you created earlier.
5. Write code so that when your script is run, the 'info' message is displayed onscreen.
6. Run your code in IDLE

Exercise 1 – Interactive Greeter

1. Extend the Simple Greeter that we worked on earlier
2. Get name, age, and shoe size from the user's input. Make sure you present meaningful prompts.
3. Do this exercise without string formatting (f-strings)
4. Run your code in IDLE, and then with Python on the command line

Exercise 2 – Stars

1. Print a single 'star' (an asterisk - '*')
2. Print multiple stars
3. Print a triangle of stars (10 lines tall) – bottom-heavy
4. Print a triangle of stars (10 lines tall) – top-heavy
5. Print two triangles of stars (10 lines tall) – facing each other
6. Print a diamond of stars (20 lines tall)
7. Ask the user for a character to use when 'drawing' the triangle.
8. What happens if the user types more than one character?
9. What happens if the user types nothing? Or a space? Or a combination of spaces and other characters?

Exercise 3 – Bar Calculator

1. Your code will print out the bill for a customer, with the help of the waiter/waitress.
2. It will first ask some questions, and then print out the bill.
3. Store the answers to the questions in variables, so that they can be used later on in your code.
4. Ask the user (waiter) for each of these pieces of information, assuming that the customer ordered only one item (but multiple orders of the same item are allowed):
 1. The customer's name (this is a friendly bar!)
 2. The name of the waiter/waitress
 3. The name of the item (eg. 'beer')
 4. The price of the item
 5. The amount of items that were ordered (eg. 3, when the customer had 3 beers)
 6. The discount amount (user should input zero if there was no discount)
5. Now calculate the total to charge the customer
6. (Bonus: add VAT to the total)
7. Print out a nicely formatted bill for the user, on multiple lines. Add some lines of stars or hyphens to create the effect of a 'border' or 'line', to make it look more professional.
8. Use at least one multi-line string in your output. Use string formatting (f-strings)

Exercise 4 – More strings

1. Get a string from the user. The user must provide a string that is 10 characters long.
2. Inform the user what the first and last characters of the string are
3. 'Build' the string up: print the first character, then the first 2, then the first 3, etc., until you print the entire string.
4. Swap some of the characters around, then print out this jumbled-up string to the user. Be sure to label it appropriately.