

Take-Home Questions

Be prepared to answer these questions at the beginning of Python II:

- What is the first thing you do when writing a program?
- When writing a program, what should you always have?
- What is a program failure caused by? What is the solution process called?
- What is source code? Object code? Byte code?
- What are three categories of problems you can encounter when running your program?
- Name three possible run-time exceptions.
- Python is a scripted language. Name two more.
- What is an variable? What two items does it point to?
- What characters can be used to form a variable name?
- Are the variables x and X the same thing?
- In Python version 2, what is the difference between 7/3 and 7//3? In Python version 3?
- If x and y are strings, is x + y valid? x * y?
- Name several built-in and imported functions you have used.
- What is an assignment statement? An expression?
- What is a Docstring? Where is it most commonly used?
- How is a comment created? Where can they be placed?
- Have scanned the contents portion of [PEP 8](#) for items you should read?
- Does a print statement always cause a linefeed?
- What are the five basic data types we studied?
- What numbering system (base) does the computer use internally?
 - What is the decimal number 138 in this system?
 - How is that number represented in hexadecimal (hex)?
 - What is the hex representation of a newline character (see the ASCII chart)?
- What formatting letters did we use in Python I? There were 3.
- What characters can be used to enclose a string?
- What is the pydoc/pydoc3 command used for? What is an alternative to pydoc?
- What is the basic purpose of a function? Where in the program is it usually located? Must it be there?
- What is the difference between global and local variables? Where did they occur in Python I?
- What statements trap exceptions? What is a bare except and what does it do?
- Before an external file is read, what must be done?

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- What two ways did we discuss to read the records in a file?
- How did we determine a complete file had been read?
- When we read numeric data from a file or the keyboard, how was it received by our program? What data type was it?
- What is white space? Did any white-space characters at the end of a record interfere with `int()` or `float()` conversions?
- What format allowed us to print the white-space characters such that we could see them?
- When opening a file, how do you determine what operations are permitted?
- If we write to an existing file, what happens to the original data?
- The `print` statement causes a linefeed by default. Does `file.write()`?
- Preparing for Python II (See Python for Everybody)
 - Have you discovered how to index into a string?
 - In your reading, have you discovered what a list is? A tuple? A dictionary?
 - What does it mean that a list is mutable? Is a string mutable?