Scripting Languages:
Know some of the differences and trade-offs between scripting languages and systems languages - dynamic typing, compiled vs. interpreted, compile-time type checking vs. runtime type-checking, high level vs. low level, execution speed vs. development speed, etc.

Concepts:
Know what it means for a variable to be "immutable"
Know what the difference is between a shallow copy and a deep copy

Perl

General:
Know what lexical scope is and what a "my" variable is
Understand the difference between scalar and list context
Know what a pragma does and 2 examples of Perl pragmas (use strict and use warnings)

Scalars:
Know the 3 types of scalars - numbers, strings, and references
Know how to declare and assign values to and retrieve values from scalar variables

Arrays:
Know the 2 types of containers - arrays and hashes
Know how to declare an array and assign and retrieves values from an array
Know how to use the quote-word (qw) operator to assign a list of space delimited strings to an array
Know how to use the $# operator to change the size of an array or get the size of an array
Know how to use the shift and unshift functions on arrays
Know how to use the pop and push functions on arrays
Know how to iterate over an array and do something with each array element

Strings:
Know the differences between single-quoted strings and double-quoted strings
Know how to concatenate strings together using the . operator
Know what conversion specifiers are and what they do inside a double-quoted string
Know what string interpolation is and how it is used
Know what a numeric string is and what operations can be used on numeric strings

Hashes:
Know how to declare a hash and assign and retrieve values from a hash
Know how to remove key-value pairs from a hash
Know how to get an array of keys from a hash
Know how to get an array of values from a hash

I/O:

Know the 3 I/O streams STDIN, STDOUT, and STDERR and what each one does

Know how the line input (diamond) operator works

Know what it means to redirect a stream's output

Know what the special system-supplied global variables $\_$ and @ARGV are and where they are used

Sorting:

Know how array sorting works and what the special $a and $b variables are used for

Know the difference between the <=> spaceship operator and the cmp operator

<u>Python</u>

General:

Know how indentation is used to define code blocks

Know the definition of a REPL and what it does - Read, Evaluate, Print, Loop

Know the difference between comparing 2 objects by value using == and reference using "is"

Know what duck typing is be able to give an example using Python code

Know how references work in Python

Know how to declare Python variables, assign values to variables, and retrieve the value of variables

Know how to retrieve the memory location of a variable - using the id() function

Know how to retrieve the type of a variable using the type() function

Know which Python data types are mutable and which ones are immutable

Know the difference between shallow and deep copying

Know how to write your own function

Know that a function always returns a single object or the null object None

Know how default function parameters work

Know how keyword function parameters work

Know the correct ordering of function parameters

Know what the keyword continue and break do when used inside of a loop

Know what syntax is used to import a module into a script

Know what the implicit top-level module name is - __main__

Know how scoping works and how names are resolved

Know how global variables work and which scope they are bound to

Containers:

Know what the container types are in Python - strings, tuples, xrange sequences, and lists

Know the different kinds of strings and their purposes - single, double, and triple-quoted strings, raw strings

Know what a docstring is and how to write a docstring for your functions

Know how to declare and use tuples, including singleton tuples
Know how to declare and use lists, including singleton lists
Know how to copy an entire list into another list
Know how to sort a list
Know how to declare and use an xrange sequence and the advantages of using xrange sequences
Know how to declare and use dictionaries

I/O:
Know the names of the 3 I/O stream or file objects - stdin, stdout, and stderr
Know what the print>>() function does