**Practice Quiz: Getting Ready for Python**

**TOTAL POINTS 5**

1.

Question 1

Which of the following is the most modern, up-to-date version of Python?

**1 / 1 point**



Python 3



Python 2



Python 4



Anaconda

**Correct**

Great job! Python 3 is the latest version of Python, with Python 3.8.0 being released on October 14, 2019.

2.

Question 2

Which of the following operating systems is compatible with Python 3?

**1 / 1 point**



Redhat Linux



Microsoft Windows



Apple MacOS



All of the above

**Correct**

Nice work! Python is a cross-platform language. You can use it on Windows, macOS, Linux, and even on lesser-known Unix variants like FreeBSD.

3.

Question 3

Which of the following operating systems does not run on a Linux kernel?

**0 / 1 point**



Android



Chrome OS



Mac OS



Ubuntu

**Incorrect**

Not quite. Chrome OS is based on the Linux kernel.

4.

Question 4

If we want to check to see  what version of Python is installed, what would we type into the command line? Select all that apply.

**1 / 1 point**



python -V

**Correct**

Awesome! Typing python -V (note the capital V) at the command line will tell you if Python is currently installed and if so, what version.



python --version

**Correct**

Awesome! Typing python --version (note the double dashes) at the command line will tell you if Python is currently installed and if so, what version.



python --help



python -v

5.

Question 5

What is pip an example of?

**1 / 1 point**



A programming language



An operating system



A repository of Python modules



A Python package manager

**Correct**

Nice work! pip is a command line tool commonly used as the main method of managing packages in Python.

**Practice Quiz: Running Python Locally**

**TOTAL POINTS 5**

1.

Question 1

When your IDE automatically creates an indent for you, this is known as what?

**1 / 1 point**



Syntax highlighting



Code reuse



Interpreted language



Code completion

**Correct**

Nicely done! Code completion is an IDE feature that takes educated guesses about what you might be trying to type next, and offers suggestions to complete it for you.

2.

Question 2

Can you identify the error in the following code?

1

2

3

4

5

6

7

8

9

#!/usr/bin/env python3

import numpy as np

def numpyArray():

    x = np.array([[1, 2, 3], [4, 5, 6]], np.int32)

    y = numpy.array([[3, 6, 2], [9, 12, 8]], np.int32)

    return x\*y

print(numpyArray())





**1 / 1 point**



The y variable is not calling the numpy module properly.



The shebang line is not necessary.



numpy is not imported correctly because as is used.



The function is not indented properly.

**Correct**

Nice job! While the x variable is calling numpy using its declared local name, y is not using the local name. This will result in an error.

3.

Question 3

Which type of programming language is read and converted to machine code before runtime, allowing for more efficient code?

**1 / 1 point**



Object-oriented language



Compiled language



Interpreted language



Intermediate code

**Correct**

Awesome! A compiled language is translated into code readable by the target machine during development using a compiler.

4.

Question 4

Which of the following is not an IDE or code editor?

**1 / 1 point**



Eclipse



pip



Atom



PyCharm

**Correct**

Right on! The package manager pip is used in Python to install packages from repositories such as PyPI.

5.

Question 5

What does the PATH variable do?

**1 / 1 point**



Tells the operating system where to find executables



Returns the current working directory



Holds the command line arguments of your Python program in a list



Tells the operating system where to cache frequently used files

**Correct**

Nice work! The PATH variable tells the operating system where to find executables.

**Practice Quiz: Automation**

**TOTAL POINTS 5**

1.

Question 1

At a manufacturing plant, an employee spends several minutes each hour noting uptime and downtime for each of the machines they are running. Which of the following ideas would best automate this process?

**1 / 1 point**



Provide a tablet computer to the employee to record uptime and downtime



Hire an extra employee to track uptime and downtime for each machine



Add an analog Internet of Things (IoT) module to each machine, in order to detect their power states, and write a script that records uptime and downtime, reporting hourly



Add an analog IoT module to each machine, in order to detect their power states, and attach lights that change color according to the power state of the machine

**Correct**

Way to go! This is a practical application of using Python (and some extra hardware, in this case) to automate a task, freeing up a human's time. The solutions can be complex if the return in saved human time warrants it.

2.

Question 2

One important aspect of automation is forensic value. Which of the following statements describes this term correctly?

**0 / 1 point**



It is important for automated processes to leave extensive logs so when errors occur, they can be properly investigated.



It's important to have staff trained on how automation processes work so they can be maintained and fixed when they fail.



It's important to organize logs in a way that makes debugging easier.



It's important to remember that 20% of our tasks as system administrators is responsible for 80% of our total workload.

**Incorrect**

Not quite. While this is true in order to avoid a pitfall of automation (that humans forget how to fix the system after it's been automated a long time), it's more of a reason to seek forensic value than a definition of forensic value itself.

3.

Question 3

An employee at a technical support company is required to collate reports into a single file and send that file via email three times a day, five days a week for one month, on top of his other duties. It takes him about 15 minutes each time. He has discovered a way to automate the process, but it will take him at least 10 hours to code the automation script. Which of the following equations will help them decide whether it's worth automating the process?

**1 / 1 point**



if [10 hours to automate > (15 minutes \* 60 times per month)] then automate



if [10 hours to automate < (15 minutes \* 60 times per month)] then automate



if [(10 hours to automate + 15 minutes) > 60 times per month)] then automate



[(10 hours to automate / 60 times per month) < 15 minutes]

**Correct**

Awesome! With 10 hours to automate, the employee will start saving time before the month is over.

4.

Question 4

A company is looking at automating one of their internal processes and wants to determine if automating a process would save labor time this year. The company uses the formula [time\_to\_automate < (time\_to\_perform \* amount\_of\_times\_done) to decide whether automation is worthwhile. The process normally takes about 10 minutes every week. The automation process itself will take 40 hours total to complete. Using the formula, how many weeks will it be before the company starts saving time on the process?

**1 / 1 point**



6 weeks



2 weeks



24 weeks



240 weeks

**Correct**

Right on! It's safe to say that the company won't find it worth it's time to automate.

5.

Question 5

Which of the following are valid methods to prevent silent automation errors? (Check all that apply)

**1 / 1 point**



Email notifications about errors

**Correct**

Excellent! Email notifications for errors or task completions can help keep track of automated processes.



Internal issue tracker entries

**Correct**

Nice work! Internal issue tracker entries are created as part of reporting on errors in our automation script in this lesson.



Constant human oversight



Regular consistency checks

**Correct**

Awesome! Automated consistency checks, such as hash checks on backups, can help identify problems ahead of time.