

<p>Python Programming Reference Sheet – The Basics</p> <p>The Python programming language is used in the creation of websites, mobile apps, desktop software, data science reports, games, server administration scripts and much more. Python works on all major platforms including Windows, OSX and Linux. The latest major version of Python is 3.</p>	<p>7) Python Variables</p> <p>There are many variable types in Python. The major ones include Booleans, Numbers, Strings, Tuples, Lists, and Dictionaries</p> <p>In Python, variables are created when you assign value to them. You do not need to declare variables ahead of time like you do in other languages.</p>	<p>14) Python Loops – For Loop – Simple version</p> <p>Here is the classic Python loop example which prints numbers 0 to 100</p> <pre>for number in range(0, 100): print("Loop #: %d" % (number))</pre>
<p>1) Installing Python on PC, Mac, or Linux</p> <p>a) Browse to https://www.python.org/downloads/</p> <p>b) Download the “installer” version for your OS</p> <p>c) Use default installer options</p>	<p>8) Python Variables: INTEGERS & BOOLEANS</p> <p>Here is an integer examples:</p> <pre>month=12</pre> <p>Here is an example of a Boolean type which can have 2 values: True or False</p> <pre>isRunning=True</pre>	<p>14) Python Loops – For Loop – Iterating a list</p> <p>Loops help with repetitive operations. Next example shows how to iterate over a list</p> <pre>students = ["John", "Mary", "Joseph"] for student in students: print(student)</pre>
<p>2) Installing Example Python IDE (integrated development environment)</p> <p>a) Browse to https://code.visualstudio.com/</p> <p>b) Download the version for your OS</p> <p>c) Use default installer options</p>	<p>9) Python Variables: FLOATS</p> <p>Here are two floats or floating-point numbers:</p> <pre>pressure=100.23 temperature=22.5</pre>	<p>15) Python Loops – For Loop with a Zip function</p> <p>Here is an example to iterate over multiple lists.</p> <pre>students = ['John', 'Mary', 'Joseph'] grades = [90, 95, 94] for student, grade in zip(students, grades): print(f'{student} -> {grade}')</pre>
<p>3) Running Python Programs from Command Line</p> <p>Simply type python followed by the script name</p> <pre>python your-script-name.py</pre>	<p>10) Python Variables: Strings</p> <p>Here are two Strings enclosed in double and single quotes</p> <pre>fname = "Joe" address = '100 John St.'</pre>	<p>16) Python Loops – While loop</p> <p>Here is an example to print numbers from 1 to 10.</p> <pre>i = 0 while i < 10: i=i+1 print(i)</pre>
<p>4) Hello World in Python</p> <p>a) Open your IDE or any text editor</p> <p>b) Type in the following and save the file as helloworld.py</p> <pre>print("Hello World !!");</pre> <p>c) Press Play in your IDE or from command line in the folder where the helloworld.py file is found run the following command:</p> <pre>python helloworld.py</pre> <p>d) You should see “Hello World !!” as the script output</p>	<p>11) Python Variables: Dictionaries</p> <p>Python dictionaries contain key/value pairs. Here is an example:</p> <pre>student = { "name": "Ford", "student_number": "SN123243", "grade": 10 }</pre>	<p>17) Python Loops – Do-While Loop</p> <p>Do while loop can be simulated with the following example code.</p> <pre>x=0 while True: x=x+1 if x==10: break</pre>
<p>5) Checking your Python version (once installed)</p> <p>a) Go to command prompt on your system (e.g. cmd on windows)</p> <p>b) Issue the following command</p> <pre>python -version</pre>	<p>12) Python Variables: Lists</p> <p>Lists are mutable (can change). If you need a variable that needs to change use Lists. Here is an example</p> <pre>myNewList = [25, 33.1, 10.3, "C"]</pre> <p>Notice how you can store multiple variable types in same list.</p>	<p>18) Python Loops – Break statement</p> <p>The break statement exists the loop. You can see example of a break statement in the previous Do-While example. In this loop the program exits the loop when value of variable x is 10.</p>
<p>6) Running Python Programs from your IDE</p> <p>Most IDEs that support Python typically have a Play button to run your script.</p>	<p>13) Python Variables: Tuples</p> <p>Tuples are immutable (not changeable like lists). Here are couple of tuple examples:</p> <pre>myNewTuple = ("abc", "def", "ghi")</pre>	<p>18) Python Loops – Continue statement</p> <p>The continue statement skips the current loop iteration and passed the control on top of the loop code. Here is an example.</p> <pre>for number in range(0, 10): if number != 5: print("Loop #: %d" % (number))</pre>