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<p style="text-align: center;"><b>Python Programming For Python 2.7 Les Pounder v1.0</b></p>	<p><b>1: Output</b>  <pre>print "hello world"  name = "fred" print name  print "hello " + name + " how are you?"</pre></p> <p>We can join strings together, this is called concatenation.</p>
<p><b>2: Comments</b>  #Comments start with a hash and #comment out one line at a time.</p> <pre>""" You can block out lots of lines using three " symbols at the start and end of the block. """</pre> <p><b>Challenge: Remember to add comments to your code!</b></p>	<p><b>3: Variables (Of Type String)</b>  <pre>firstname = "fred" surname = "jones" fullname = firstname + " " + surname greeting = "hello " greeting += fullname print greeting</pre></p> <p><b>Variables are boxes that can contain anything, we name them so we can use them.</b></p>
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<b>4: Numbers</b> 1+1 1.0 + 1.0  Int() float()          <b>Challenge: Find a sum that you know is correct, but Python will get it wrong.</b>	<b>5: Variables (Of Type Number)</b> secsInMin = 60 minsInHr = 60 hrsInDay = 24 secsInDay = secsInMin * minsInHr * hrsInDay print secsInDay  Variables can also store float numbers.          <b>Challenge: create two variables one containing a string, another an integer. Try and join them together.</b>
<b>6: Arithmetic</b> a=1.3 b=2.7 c=a+b print c c=a-b print c c=a*b print c c=a/b print c  <b>Challenge: Write some code that converts £ to \$</b>	<b>7: User Input</b> name = raw_input("what is your name?") print "hello " + name  age = int(raw_input("how old are you?")) print "next year you will be " + str(age+1)  <b>Any input is stored as a string!</b>       <b>Challenge: Write some code that asks for two numbers, then adds them together and prints the result.</b>
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<b>8: If</b> <pre>age=10 if age &gt; 16:     print "you have left school"</pre> <p><b>Challenge:</b> Add more conditions to the above code, hint use Card 9 to learn more. Try changing the variable and see what the outcome is.</p>	<b>9: Conditions</b> <pre>a=1 if a==1:     print "equal" if a!=1:     print "not equal" if a&lt;1:     print "less" if a&gt;1:     print "greater" if a&lt;=1:     print "less or equal" if a&gt;=1:     print "greater or equal"</pre>
<b>10: If...Else</b> <pre>age=10 if age&gt;16:     print "you can drive a car" else:     print "you are not old enough"</pre>	<b>11: If...Elif...Else</b> <pre>age=10 if age&lt;5:     print "you are at nursery" elif age&lt;7:     print "you are at infants" elif age&lt;10:     print "you are at juniors" elif age&lt;17:     print "you are at secondary school" else:     print "you have left school"</pre> <p><b>Challenge:</b> Use <code>raw_input</code> (Card 7) to ask the user their age, store it as a variable and then evaluate it using the above code.</p>
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<p><b>12: And...Or</b></p> <pre> a=1 b=2 if a&gt;0 and b&gt;0:     print "both are non zero"  if a&gt;0 or b&gt;0:     print "at least one of them is non zero" </pre> <p><b>Challenge:</b> Write a script that asks the user for their favourite food and then drink, which are stored as variables, then alter the code above to reflect this. Hint use == to compare.</p>	<p><b>13: For</b></p> <pre> name="fred" for ch in name:     print ch  total=20 for n in range(total):     print n  for n in range(1,20):     print n  for n in range(1,20,2):     print n </pre>
<p><b>14: While</b></p> <pre> while True:     print "Hello"     print "World" </pre> <p>Tip: Use Control + C (or Command + C for Mac) to stop the program.</p> <p><b>Challenge:</b> Write a loop that prints "Hello" on one line, then your name, saved in a variable called name.</p>	<p><b>15: Functions (No Parameters)</b></p> <pre> def myname():     print "my name is fred"  myname() </pre> <p><b>Challenge:</b> Write a function that asks the user for their name and then prints it 20 times.</p>
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<b>16: Functions (With Parameters)</b> <pre>def showname(name):     print "my name is " + name  def info(name, age):     print "my name is " + name     print "my age is " + str(age)  showname("fred") showname("harry")  info("fred", 10) info("harry", 20)</pre>	<b>17: Functions (With Return)</b> <pre>def square(n):     return n*n  print square(5) print square(10) a=100 print square(a) print square(a+10) b=square(a) print b</pre> <p><b>Challenge: Refer to Card 6 and create a function that converts \$ to £. Where n is the valune in \$.</b></p>
<b>18: Boolean (True / False) Logic</b> <pre>10 == 10 10 &gt; 20 10 &lt; 20 10 != 11</pre> <p><b>Challenge: Use this logic to expand on Card 11.</b></p>	<b>19: Import Modules / Libraries</b> <pre>import time  time.sleep(2)</pre> <p><b>Challenge: Improve Card 14 so that there is a delay between each print statement.</b></p>
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<p><b>20: Turtles</b></p> <pre> from turtle import * forward() right() left() color("") circle(r) penup() pendown() reset() </pre> <p><b>Challenge:</b> Write a loop that will draw 20 circles starting with a radius of 20 and ending after 20 loops.</p>	<p><b>21: Lists</b></p> <pre> list = ["Banana"] Add to List list.append("Apple") print list print list[0] </pre> <p>Remove from list list.pop(x) where x is the position of the item that you wish to remove.</p> <p><b>Challenge:</b> Create a list to store your shopping, and then print out each item on a new line.</p>
<p><b>22: Breaking Out Of A Loop</b></p> <pre> while True:     answer = raw_input("Press x to exit")     if answer == "x"         break </pre> <p><b>Challenge:</b> Create a loop that prints the players name 20 times, then breaks.</p>	<p><b>23: Random</b></p> <pre> import random  print random.choice(list) print random.randint(1,100) </pre> <p><b>Challenge:</b> Use random.choice to select a fruit that children should eat from the list in Card 21, and add it to a sentence (Cards 1 &amp; 3 will help)</p>
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