# Python Code with Syntax Highlighting

<div class="highlight"><pre><span></span><span class="kn">import</span> <span class="nn">random</span>  
<span class="kn">import</span> <span class="nn">numpy</span> <span class="k">as</span> <span class="nn">np</span>  
<span class="kn">import</span> <span class="nn">pandas</span> <span class="k">as</span> <span class="nn">pd</span>  
<span class="kn">import</span> <span class="nn">math</span>  
<span class="kn">import</span> <span class="nn">openpyxl</span>  
<span class="kn">import</span> <span class="nn">time</span>  
<span class="kn">import</span> <span class="nn">sys</span>  
<span class="n">np</span><span class="o">.</span><span class="n">set\_printoptions</span><span class="p">(</span><span class="n">threshold</span><span class="o">=</span><span class="n">sys</span><span class="o">.</span><span class="n">maxsize</span><span class="p">)</span>  
<span class="kn">import</span> <span class="nn">xlwings</span>  
<span class="n">filename1</span> <span class="o">=</span> <span class="s2">"C:\Users</span><span class="se">\a</span><span class="s2">dmin\PYTHON\Thesis\_Meta\GA data.xlsx"</span>  
<span class="n">wb1</span><span class="o">=</span><span class="n">xlwings</span><span class="o">.</span><span class="n">Book</span><span class="p">(</span><span class="n">filename1</span><span class="p">)</span>  
<span class="n">sheet1</span><span class="o">=</span><span class="n">wb1</span><span class="o">.</span><span class="n">sheets</span><span class="p">[</span><span class="mi">0</span><span class="p">]</span>  
  
<span class="c1">#paramters</span>  
<span class="n">period</span><span class="o">=</span><span class="nb">int</span><span class="p">(</span><span class="n">sheet1</span><span class="o">.</span><span class="n">range</span><span class="p">(</span><span class="s2">"D3"</span><span class="p">)</span><span class="o">.</span><span class="n">value</span><span class="p">)</span>  
<span class="n">supermarket</span><span class="o">=</span><span class="nb">int</span><span class="p">(</span><span class="n">sheet1</span><span class="o">.</span><span class="n">range</span><span class="p">(</span><span class="s2">"D4"</span><span class="p">)</span><span class="o">.</span><span class="n">value</span><span class="p">)</span>  
<span class="n">item</span> <span class="o">=</span> <span class="nb">int</span><span class="p">(</span><span class="n">sheet1</span><span class="o">.</span><span class="n">range</span><span class="p">(</span><span class="s2">"D5"</span><span class="p">)</span><span class="o">.</span><span class="n">value</span><span class="p">)</span>  
<span class="n">pc</span><span class="o">=</span><span class="n">sheet1</span><span class="o">.</span><span class="n">range</span><span class="p">(</span><span class="s2">"D6:F6"</span><span class="p">)</span><span class="o">.</span><span class="n">value</span>  
<span class="n">hc</span><span class="o">=</span><span class="n">sheet1</span><span class="o">.</span><span class="n">range</span><span class="p">(</span><span class="s2">"D12:F12"</span><span class="p">)</span><span class="o">.</span><span class="n">value</span>  
<span class="n">oc</span><span class="o">=</span><span class="nb">int</span><span class="p">(</span><span class="n">sheet1</span><span class="o">.</span><span class="n">range</span><span class="p">(</span><span class="s2">"D15"</span><span class="p">)</span><span class="o">.</span><span class="n">value</span><span class="p">)</span>  
<span class="n">WU</span><span class="o">=</span><span class="nb">int</span><span class="p">(</span><span class="n">sheet1</span><span class="o">.</span><span class="n">range</span><span class="p">(</span><span class="s2">"D16"</span><span class="p">)</span><span class="o">.</span><span class="n">value</span><span class="p">)</span>  
</pre></div>