

```
In [5]: import numpy
import scipy
import matplotlib
import pandas
import statsmodels
import seaborn
import sklearn

print("numpy:", numpy.__version__)
print("scipy:", scipy.__version__)
print("matplotlib:", matplotlib.__version__)
print("statsmodels:", statsmodels.__version__)
print("pandas:", pandas.__version__)
print("seaborn:", seaborn.__version__)
print("sklearn:", sklearn.__version__)
```

```
numpy: 1.23.5
scipy: 1.10.0
matplotlib: 3.7.0
statsmodels: 0.13.5
pandas: 1.5.3
seaborn: 0.12.2
sklearn: 1.2.1
```

```
In [11]: 5*6
2+2
```

```
Out[11]: 4
```

```
In [9]: print(2+2)
2+3
6*7
```

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```

```
Out[9]:
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```
In [13]: annual = 50000
```

```
In [14]: annual/(40*52)
```

```
Out[14]: 24.03846153846154
```

```
In [16]: def hourly(annualwage):
    hourlywage = annualwage/(40*52)

    return hourlywage
```

```
In [17]: hourly(60000)
```

```
Out[17]: 28.846153846153847
```

```
In [18]: my_hourly_wage = hourly(17000)
```

```
In [19]: my_hourly_wage
```

Out[19]: 8.173076923076923

In [20]: `list(range(10))`

Out[20]: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

In [21]: `my_annual_salaries = [0,1,2,3,4,5,6,7,8,9]`

In [22]: `hourly_wages = []  
for salary in my_annual_salaries:  
 hourly_wages.append( hourly(salary) )  
hourly_wages`

Out[22]: [0.0,  
0.0004807692307692308,  
0.0009615384615384616,  
0.0014423076923076924,  
0.0019230769230769232,  
0.002403846153846154,  
0.0028846153846153848,  
0.0033653846153846156,  
0.0038461538461538464,  
0.004326923076923077]

In [23]: `annual/(40*52)`

Out[23]: 24.03846153846154

In [24]: `def is_roth_eligible(annual_wage):  
 return annual_wage < 130000`

In [25]: `def is_roth_eligible(annual_wage):  
 if annual_wage < 130000:  
 return True  
 else:  
 return False`

In [26]: `200000 < 130000`

Out[26]: False

In [27]: `is_roth_eligible(100000)`

Out[27]: True

In [28]: `is_roth_eligible(200000)`

Out[28]: False

In [29]: `hourly(my_annual_salaries)`

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[29], line 1  
----> 1 hourly(my_annual_salaries)  
  
Cell In[16], line 2, in hourly(annualwage)  
      1 def hourly(annualwage):  
----> 2     hourlywage = annualwage/(40*52)  
      5     return hourlywage  
  
TypeError: unsupported operand type(s) for /: 'list' and 'int'
```

```
In [30]: hourly_wages = numpy.array([1,2,3])
```

```
In [31]: hourly_wages/60
```

```
Out[31]: array([0.01666667, 0.03333333, 0.05      ])
```

```
In [32]: numpy.abs([-1,2,3])
```

```
Out[32]: array([1, 2, 3])
```

```
In [33]: numpy.abs(numpy.array([-1,2,3]))
```

```
Out[33]: array([1, 2, 3])
```

```
In [34]: numpy.sum([-1,2,3])
```

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Out[34]: 4
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In [35]: for i in range(1000):  
          print(i)
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