```
In [1]:    import numpy as np

In [16]:   def calculate(list):

               if len(list) != 9 :
                   raise ValueError("List must contain nine numbers.")

               list = np.array(list).reshape((3,3))

               calculations = {}

               calculations['mean'] = [list.mean(axis=0).tolist(), list.mean(axis=1).tolist(), np.mean(list).tolist()]
               calculations['variance']= [list.var(axis =0).tolist(),list.var(axis =1).tolist(),np.var(list).tolist()]
               calculations['std_dev'] = [list.std(axis =0).tolist(),list.std(axis =1).tolist(),np.std(list).tolist()]
               calculations['max'] = [list.max(axis =0).tolist(),list.max(axis =1).tolist(),np.max(list).tolist()]
               calculations['min']= [list.min(axis =0).tolist(),list.min(axis =1).tolist(),np.min(list).tolist()]
               calculations['sum'] = [list.sum(axis =0).tolist(),list.sum(axis =1).tolist(),np.sum(list).tolist()]


               return calculations

           print(calculate([0,1,2,3,4,5,6,7,8,]))
```

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{'mean': [[3.0, 4.0, 5.0], [1.0, 4.0, 7.0], 4.0], 'variance': [[6.0, 6.0, 6.0], [0.6666666666666666, 0.6666666666666666, 0.6666666666666666], 6.66666666666667], 'std_dev': [[2.449
49742783178, 2.44949742783178, 2.44949742783178], [0.816496580927726, 0.816496580927726, 0.816496580927726], 2.581988897471611], 'max': [[6, 7, 8], [2, 5, 8], 8], 'min': [[0, 1,
2], [0, 3, 6], 0], 'sum': [[9, 12, 15], [3, 12, 21], 36]}
```

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In [ ]:
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