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Python 3.9.13 (main, Aug 25 2022, 23:51:50) [MSC v.1916 64 bit (AMD64)]
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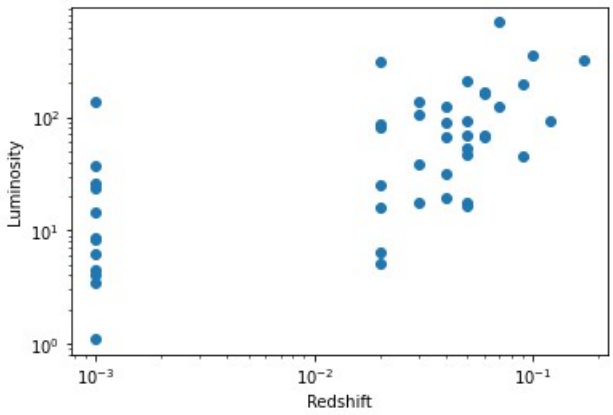
IPython 7.31.1 -- An enhanced Interactive Python.

In [1]: import numpy as np
   ...: import pandas as pd
   ...: from scipy.stats import norm
   ...: import matplotlib.pyplot as plt
   ...: import astroML

In [2]: from scipy import stats
   ...: data = pd.read_csv("http://www.iith.ac.in/~shantanud/test.dat", delimiter=' ', header=None,
names=['Luminosity', 'Redshift'],skiprows=1)
   ...:
   ...:
   ...: plt.loglog(data['Redshift'], data['Luminosity'], 'o')
   ...: plt.xlabel('Redshift')
   ...: plt.ylabel('Luminosity')
   ...: plt.show()
   ...:
   ...: spearman_coef, spearman_pvalue = stats.spearmanr(data['Redshift'], data['Luminosity'])
   ...: pearson_coef, pearson_pvalue = stats.pearsonr(data['Redshift'], data['Luminosity'])
   ...: kendall_coef, kendall_pvalue = stats.kendalltau(data['Redshift'], data['Luminosity'])
   ...:
   ...: print("Spearman correlation coefficient: ", spearman_coef)
   ...: print("Spearman p-value: ", spearman_pvalue)
   ...: print("Pearson correlation coefficient: ", pearson_coef)
   ...: print("Pearson p-value: ", pearson_pvalue)
   ...: print("Kendall-tau correlation coefficient: ", kendall_coef)
   ...: print("Kendall-tau p-value: ", kendall_pvalue)
```

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Spearman correlation coefficient:  0.6596325957535454
Spearman p-value:  6.166489759081011e-07
Pearson correlation coefficient:  0.5144497852670242
Pearson p-value:  0.0002546471657612425
Kendall-tau correlation coefficient:  0.5029584682704178
Kendall-tau p-value:  2.9696862274734036e-06

In [3]:
```