|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **<Title>** | Basic test example of a sine wave | | **<TEST\_DATE>:** |  | | **<GROUP>:** | | sine | | **<MODE>:** | | run | |
|  | You can freely format and change the table layout according to your needs. You can use this for example to put in testing documentation  This test demonstrates the generation of a sine wave signal, visualize it and checks the min and max value against some limits. | | | | | | | | | | | | |
| **<KVP>** | **Action description:** | **<PYTHON>** | | | **<LL>** | | **<Actual>** | | **<UL>** | | **Unit** | | **<Pass/fail>** |
|  | **Imports:** |  | | |  | |  | |  | |  | |  |
|  |  | import numpy as np | | |  | |  | |  | |  | |  |
|  |  | import matplotlib.pyplot as plt | | |  | |  | |  | |  | |  |
|  |  |  | | |  | |  | |  | |  | |  |
|  | **Generate sine wave:** |  | | |  | |  | |  | |  | |  |
|  | Ask tester what amplitude is required | off=float(input("What offset would you like?")) | | |  | |  | |  | |  | |  |
|  | Generate x values from 0 to 2π | x = np.linspace(0, 2 \* np.pi, 20) | | |  | |  | |  | |  | |  |
|  | Compute sine of x | y = np.sin(x) + off # Compute sine of x | | |  | |  | |  | |  | |  |
|  |  |  | | |  | |  | |  | |  | |  |
|  | **Do some testing with limits:** |  | | |  | |  | |  | |  | |  |
| S\_max | Is the max of the sine ok? | max(y) | | | 0.5 | |  | | 1.5 | |  | |  |
|  | Is the min of the sine ok? | min(y) | | | -1 | |  | | -1.5 | |  | |  |
|  |  |  | | |  | |  | |  | |  | |  |
|  | **Visualize sine wave:** |  | | |  | |  | |  | |  | |  |
|  | Generate plot | fig, ax = plt.subplots() | | |  | |  | |  | |  | |  |
|  |  | ax.plot(x, y) | | |  | |  | |  | |  | |  |
|  | Store plot fig | fig | | |  | |  | |  | |  | |  |