

$$56 + 8s + 42s^2 + 6s^3 + 7s^4 + s^5$$

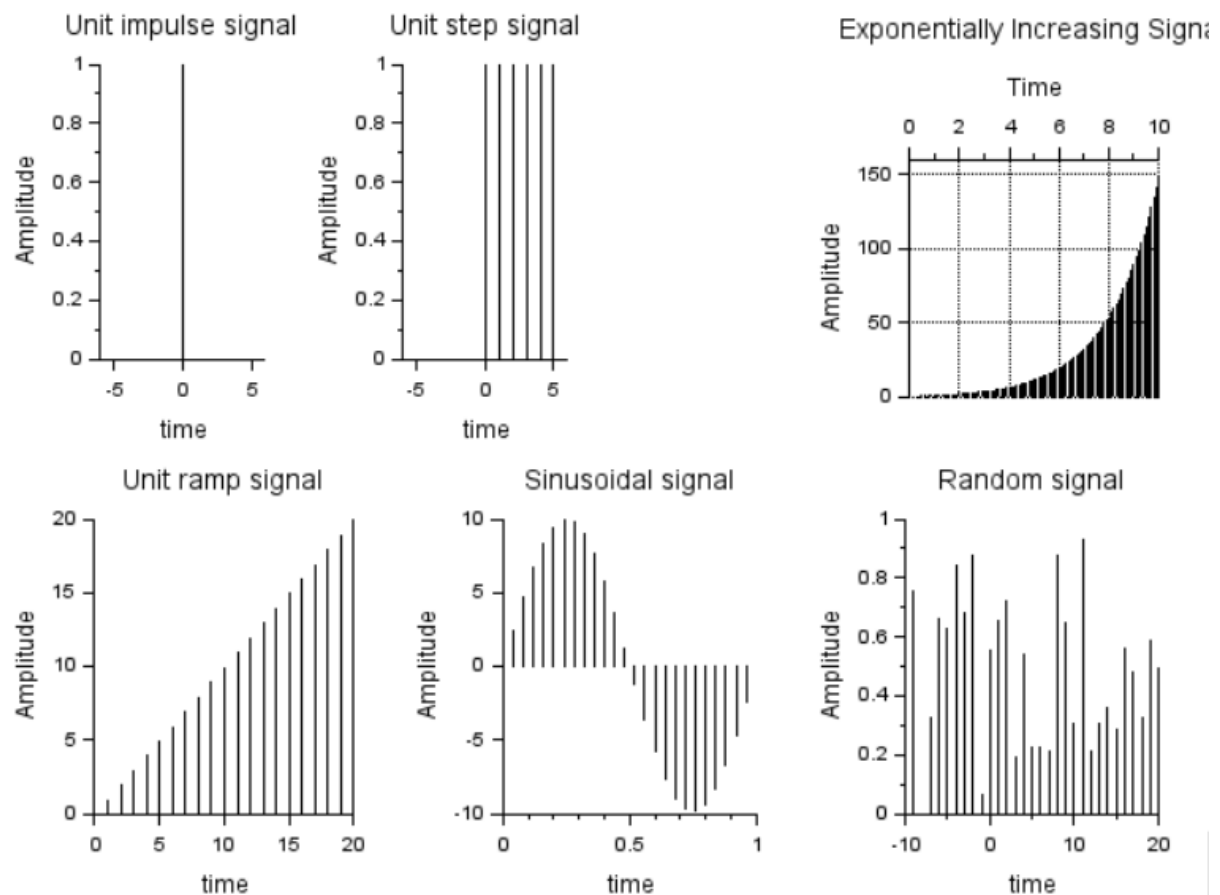
"The given characteristics equation  $1-G(s)H(s)=$ "

1.	6.	8.
7.	42.	56.
28.	84.	0.
21.	56.	0.
9.3333333	0.	0.
56.	0.	0.

"Routh's table="

From Routh's table, it is clear that the system is stable.

Graphic window number 0



```
Scilab 2024.1.0 Console
column 1 to 5
0. + 0.i -1.4142136 + 3.4142136i 2. - 2.i 1.4142136 - 0.5857864i 4. + 0.i
column 6 to 8
1.4142136 + 0.5857864i 2. + 2.i -1.4142136 - 3.4142136i
"X(z) = "
```

18 2

```
column 1 to 5
20. + 0.i -5.8284271 - 2.4142136i 0. + 0.i -0.1715729 - 0.4142136i 0. + 0.i
column 6 to 8
-0.1715729 + 0.4142136i 0. + 0.i -5.8284271 + 2.4142136i
"X(z) = "
```

19 1

```
"Digital Transfer Function H(z):"
column 1
"Numerator coefficients of H(z): 1.4436141"
column 2
"Numerator coefficients of H(z): 0.169837"
column 3
"Numerator coefficients of H(z): 1.4436141"
column 1
"Denominator coefficients of H(z): 0.5298913"
column 2 to 3
"Denominator coefficients of H(z): -1.1875" "Denominator coefficients of H(z): 1"
```

19 2

```
"Analog Transfer Function Coefficients:"
"Numerator: 1"
"Denominator: 1" "Denominator: 10"
"Discrete Transfer Function Coefficients:"
"Numerator: -0.3678794 +z"
"Denominator: -0.3678794 +z"
```

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