PROBLEM:

Pick the correct output signal and enter the number in the answer box:

Difference Equation, $H(z)$, $\mathcal{H}(\hat{\omega})$, or $h[n]$.

(a) `firfilt( [1,1], [0,1,-1] )`

ANS =

(b) $y[n] = y[n-1] + x[n]$ (at rest)

with $x[n] = \delta[n] - \delta[n-1]$

ANS =

(c) $H(z) = \dfrac{1}{1 + \frac{1}{2}z^{-1}}$

with $x[n] = \delta[n]$

ANS =

(d) $y[n] = x[n-1] - x[n-2]$

with $x[n] = 3 + \cos(2\pi n/3)$ for all n.

ANS =

Output Signal

1. $y[n] = \delta[n-1] - \delta[n-2]$
2. $y[n] = \delta[n]$
3. $y[n] = \delta[n-1] - \delta[n-3]$
4. $y[n] = u[n]$
5. $y[n] = (\frac{1}{2})^n u[n]$
6. $y[n] = (-\frac{1}{2})^n u[n]$
7. $y[n] = 0$ for all n
8. $y[n] = \cos(2\pi n/3 - \pi)$ for all n
9. $y[n] = \sqrt{3}\cos(2\pi n/3 + 3\pi/2)$ for all n