

Signals and System: Final Exam

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Class: A

Code ScreenShot:

```
Editor - C:\Users\mawai\OneDrive\Documents\MATLAB\Lab Exam\Final.m*
File Edit Text Go Cell Tools Debug Desktop Window Help
Stack: Base
1 %Lab Exam:
2 %22pwcse2144
3 %Hassan Zaib Jadoon
4 %Section A
5
6
7 % Part (a)
8 n = -10:10;
9 x = 28*(n+3==0) + 38*(n+2==0) + 48*(n+1==0) + 8*(n==0) + 48*(n-1==0) + 38*(n-2==0) + 28*(n-3==0);
10 subplot(3,2,1);
11 stem(n, x);
12 title('Signal x[n]');
13 xlabel('n');
14 ylabel('Amplitude');
15
16 % Part (b)
17 u = zeros(size(n));
18 u(n >= 0) = 1;
19 subplot(3,2,2);
20 stem(n, u);
21 title('Unit Step Signal');
22 xlabel('n');
23 ylabel('Amplitude');
24
25 % Part (c)
26 x_flipped = flip(x);
27 subplot(3,2,3);
28 stem(n, x_flipped);
29 title('Flipped Signal x[n]');
30 xlabel('n');
31 ylabel('Amplitude');
32 if isequal(x, x_flipped)
33     disp('Signal x[n] is symmetric');
34 else
35     disp('Signal x[n] is not symmetric');
36 end
37
```

Figure 1: Part a, b, c

```
38 % Part (d)
39 x_causal = zeros(size(n));
40 x_causal(n >= 0) = x(n >= 0);
41 subplot(3,2,4);
42 stem(n, x_causal);
43 title('Causal Signal x[n]');
44 xlabel('n');
45 ylabel('Amplitude');
46
47 % Part (e):
48 % Plot is not possible without the code.
49
50
```

Figure 2:Part d and e

Output:

