```
u1 = [-1 1 0 0 0; 0 -1 1 0 0; 0 0 -1 1 0; 0 0 0 -1 1; 0 0 0 0 -1];
u2 = [-1 1 0 0 0; -1/2 -1 1/2 0 0; 0 -1/2 -1 1/2 0;0 0 -1/2 -1 1/2; 0 0 0 0 -1];
u3 = [-1 0 0 0 0; 0 -1 0 0 0; 0 0 -1 0 0; 0 0 0 -1 0; 0 0 0 0 -1];

y = [0,2,3,5,7]';
v=[0,0,0,0,0]';
```

Eigenvalues for scheme 1, 2 and 3

```
eig(u1)
eig(u2)
eig(u3)
```

```
ans =

    -1
    -1
    -1
    -1
    -1


ans =

  -1.0000 + 0.9239i
  -1.0000 - 0.9239i
  -1.0000 + 0.3827i
  -1.0000 - 0.3827i
  -1.0000


ans =

    -1
    -1
    -1
    -1
    -1
```

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