```
>> Controller_Observer_design_2

A_dc =

   -0.7131   -2.8598   -17.4180
    0.1601   -0.7597    -2.9975
    0.0318    0.0660    -1.5272


B_dc =

  -69.8824
   16.3190
   -0.3802

Enter Desired eigen values:-1
Enter Desired eigen values:-2
Enter Desired eigen values:-3
State Feedback Gain:

K =

   -0.0384    0.0450    1.0938

A-BK:

ans =

   -3.3941    0.2872   59.0226
    0.7862   -1.4946  -20.8480
    0.0172    0.0832   -1.1113

Modified eigen values:

ans =

   -3.0000
   -2.0000
   -1.0000

>> Controller_Observer_design_2

A =

    -7     1     15
    -2     0      5
    -2     0      4


B =

    65
    -5
```

```
    30


C =

    -1     2     0


reach =

   -0.9147    0.0567   -0.4001
   -0.1547   -0.9638    0.2171
   -0.3733    0.2605    0.8904


unreach =

  3×0 empty double matrix


observ =

    1     0     0
    0     1     0
    0     0     1


unobserv =

  3×0 empty double matrix

System is input stabilizable

A_dc =

   -0.7131   -2.8598  -17.4180
    0.1601   -0.7597   -2.9975
    0.0318    0.0660   -1.5272


B_dc =

  -69.8824
   16.3190
   -0.3802

System is output stabilizable
Enter Desired eigen values:-1
Enter Desired eigen values:-2
Enter Desired eigen values:-3
State Feedback Gain:

K =
```

```
   -0.0384     0.0450     1.0938
```

A-BK:

ans =

```
   -3.3941     0.2872    59.0226
    0.7862    -1.4946   -20.8480
    0.0172     0.0832    -1.1113
```

Modified eigen values:

ans =

```
   -3.0000
   -2.0000
   -1.0000
```

>>