Part C

```
A = [-18 16 8; -29 27 13; 10 -10 -4];
B = [1; -3; -2];
K = place(A,B,[-2 -19 -38]);
fprintf ('The Gain K matrix is: ');
fprintf('%g ', K);
fprintf ('\n');
```

```
The Gain K matrix is: 18 -18 4
```

Part D

```
Acl = A - B*K;
eigAcl = eig(Acl);
fprintf ('The new poles are: ');
fprintf('%g ', eigAcl);
fprintf ('\n');
```

```
The new poles are: -38 -2 -19
```

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