

```
1: // J.J. Collins
2: // CS4125 / CS5721
3:
4: // Example of aggregation using dependency injection
5: // Intent: a person can have zero or more addresses.
6:
7: import java.util.*;
8: /*****
9: interface I_Address
10: {
11:     public void display_tel_no();
12: }
13: *****/
14: class address implements I_Address
15: {
16:     private int tel;
17:
18:     public address(int t) {tel = t;}
19:     public void display_tel_no() { System.out.println(" Prog 7: Telephone number is:
20:         " + tel);}
21:     protected void finalize() throws Throwable {
22:         System.out.println(" bye from address");
23:     }
24: }
25: /*****
26: interface I_Person
27: {
28:     public void inject_address(I_Address ref);
29:     public void show_tel();
30: }
31: *****/
32: class person implements I_Person
33: {
34:
35:     private List<I_Address> a = new ArrayList<I_Address>();
36:
37:     public void inject_address(I_Address ref) { a.add(ref);}
38:     public void show_tel() {
39:         for (Iterator<I_Address> it = a.iterator(); it.hasNext(); )
40:             it.next().display_tel_no();
41:     }
42:     protected void finalize() throws Throwable {
43:         System.out.println(" bye from person");
44:     }
45: }
46: /*****
47: class container {
48:
49:     public static void main(String args[]) {
50:
51:         I_Address home = new address(1234);
52:         I_Address work = new address(6789);
53:         I_Person p = new person();
54:
55:         p.inject_address(home); // dependency injection
56:         p.inject_address(work);
57:         p.show_tel();
58:
59:         int count=0;
60:         for(int i=0; i< 10000000; i++) count++;
61:         System.gc(); // forced garbage collection
62:
63:         home.display_tel_no();
64:         work.display_tel_no();
65:         System.gc();
66:     }
67: }
68: }
69: *****/
```