

```

1  import java.io.FileNotFoundException;
2  import java.io.PrintWriter;
3
4  public interface IManager {
5      void store(String data) throws FileNotFoundException;
6  }
7
8  public class RelationalManager implements IManager{
9
10     public RelationalManager() {}
11
12     // Would normally use the table_store method from the Relational database system,
13     // but is replaced with placeholder
14     // code which stores the provided data in a .txt file called 'RelationalOutput.txt'
15     public void store(String data) throws FileNotFoundException {
16         System.out.println("Storing the provided data, '" + data + "', using the
17         Relational Manager");
18         PrintWriter out = new PrintWriter("RelationalOutput.txt");
19         out.println(data);
20         out.close();
21     }
22
23     }
24
25     public class NoSQLManager implements IManager {
26
27         public NoSQLManager() {}
28
29         // Would normally use the document_store method from NoSQL, but is replaced with
30         // placeholder code which stores the
31         // provided data in a .txt file called 'NoSQLOutput.txt'
32         public void store(String data) throws FileNotFoundException {
33             System.out.println("Storing the provided data, '" + data + "', using the NoSQL
34             Manager");
35             PrintWriter out = new PrintWriter("NoSQLOutput.txt");
36             out.println(data);
37             out.close();
38         }
39     }
40
41     public class GraphManager implements IManager{
42
43         public GraphManager() {}
44
45         // Would normally use the node_store method from the Graph database system, but is
46         // replaced with placeholder
47         // code which stores the provided data in a .txt file called 'GraphOutput.txt'
48         public void store(String data) throws FileNotFoundException{
49             System.out.println("Storing the provided data, '" + data + "', using the Graph
50             Manager");
51             PrintWriter out = new PrintWriter("GraphOutput.txt");
52             out.println(data);
53             out.close();
54         }
55     }
56
57     public class Client {
58
59         private IManager storeStrategy;
60
61         public Client() {
62             this.storeStrategy = new RelationalManager();
63         }
64
65         public void setStoreStrategy(IManager storeStrategy) {
66             this.storeStrategy = storeStrategy;
67         }
68
69         public void store(String data) {
70             try {

```

```

64         this.storeStrategy.store(data);
65     } catch (FileNotFoundException e) {
66         System.out.println("File 'output.txt' cannot be found!");
67     }
68 }
69 }
70
71 public class Main {
72     public static void main(String[] args) {
73
74         System.out.println("\n-----\n" +
75             "Creating client with default (Relational) database\n" +
76             "manager...");
77         Client client = new Client();
78         client.store("Default Test Data");
79         System.out.println();
80
81         System.out.println("Changing the client's storage strategy to NoSQLManager...");
82         client.setStoreStrategy(new NoSQLManager());
83         client.store("NoSQL Test Data");
84         System.out.println();
85
86         System.out.println("Changing the client's storage strategy to GraphManager...");
87         client.setStoreStrategy(new GraphManager());
88         client.store("Graph Test Data");
89
90         System.out.println("-----\n");
91     }
92 }

```