Experiment 7
ADO .net and Data set Connection

Aim: To implement a program to establish a connection between data set and windows forms using ADO .net.

Theory:

ADO .net provides consistent access to data sources such as SQL Server and XML, and to data sources exposed through OLE DB and ODBC. Data-sharing consumer applications can use ADO .Net to connect to these data Sarces and retrieve, handle, and update the data that they contain.

ADO .net separates data access from data manipulation into discrete components that can be used separately or in tandem. ADO .net includes .Net framework data providers for connecting to a database, executing commands, and retrieving results. Those results are either processed directly, placed in an ADO .net Data set object in order to be exposed to the user in an ad hoc manner.

ADO .net provides the most direct method of data access within the .net framework. For a higher-level abstraction that allows applications to work against a conceptual model instead of the underlying storage model, see the ADO .net Entity framework.

The ADO .net architecture comprises six important component. They are as follows:

1) Connection: The connection object is the first important component. It is required to connect to a backend database that may be SQL server, oracle, MySQL, etc. You must have two things to create a connection object. They are database machine name and security crendentials.

2) Command: The second important component is the command object. After you create your SQL queries, you can execute them over the connection using command object.

3) DataReader: We can only read the records in the forward mode with DataReader. There are theree types of Data Reader modes: read-only, connected and forward modes.

4) Dataset: A disconnected record set can be browsed in both directions, and it is also possible to insert, update, or delete data sets. The Data-Adapter fills a Dataset using data.

5) Data Adapter: The Data Adapter performs an operation on the data from the command object and then writes the data set to the dataset.

6) DataView: A DataView enables you to modify the appearance of the data stored in a DataTable, a data-binding skill that is frequently employed in data-view applications.