Practical No. 1

Aim : **Write a program to implement to create a simple web service that converts the tempera- ture from Fahrenheit to Celsius and vice versa.**

Write Up Theory

What is the webservice?

A web service is a generic term for an interoperable machine-to-machine software function that is hosted at a network addressable location. A web service has an interface, which hides the implementation details so that it can be used independently of the hardware or software platform on which it is implemented, and independently of the programming language in which it is written. This independence encourages web service based applications to be loosely coupled, component-oriented, cross-technology implementations. Web services can be used alone or with other web services to carry out a complex aggregation or a business transaction.

Who is the client in a web service ?

A web service is platform independent, just like the internet to ensure compatibility of web service among all types of hardware and software. Any program/Hardware can be a client for a web service if it has the credentials to use and the web service description/protocol to communicate with it. Web service also offers a new perspective to "software as a service(Saas)" offerings for developers and corporations. Web Services serve billions of requests from all kinds of devices for all kinds of data.

steps for adding service reference in a web service

1. Create a Web Application of "ASP.NET" using(.Net Framework 4.7).

2. Give a suitable title to the project and solution.

3. Initialize it as "Empty" solution.

4. On Solution Explorer, right click and add a "Web Service(asmx)" to the solution.

5. Moving ahead we already have the files initialized for returning "Hello World".

6. Remove/overwrite the "Hello World" "WebMethod" and add your own "WebMethods" to the source file.

7. Save it and try out the web-service using the play button to host the web service on a local "IIS Express" server.

8. Once the web service successfully runs and gives the desired output in form of XML documents; We will Proceed towards making client side pages.

9. In solution explorer, right click on the connected services tab and click on "add service reference" option.

10. Next discover the web service we just created and click on the service you created and click ok.

11. Now you have successfully connected the web service to the solution.

12. Add a new WebForm in the same solution and start designing the client side UI.

13. After completing the UI design open the backend C# code.

14. Define methods for Button Clicks either explicitly or by double clicking the respective buttons in the design section of the form .

15. In the button click methods first create a SOAP object for the "webservice.WebService1SoapClient()" class.

16. Using the SOAP object invoke the web-service methods and pass the appropriate data from the input field casted to the data type used in web-service method.

17. Next try running the ASPX page using the local server, add exception handling for handling exceptions if required.