# Bahria University,

## Karachi Campus



### LAB EXPERIMENT NO.

5

LIST OF TASKS

|  |  |
| --- | --- |
| Task No | Objective |
| 1 | Implement Singleton pattern on printer functionality. |
| 2 | Implement Singleton pattern for Sessions. |
| 3 | Implement Singleton pattern for logger application. |

Submitted On:-

13/4/2022

(Form:- dd/mm/yy)

**Task# 01:- Implement Singleton pattern on printer functionality.**

**Solution:-**

public class Printer {

protected static Printer \_obj;

private Printer() {

}

public static Printer GetObject() {

if(\_obj == null) {

\_obj = new Printer();

}

return \_obj;

}

public void Print(String s) {

Console.WriteLine(s);

}

}

static void Main() {

Console.WriteLine("Types Of Printers:-");

Printer dotMatrix = Printer.GetObject();

dotMatrix.Print("1.Dot Matrix Printer");

Printer laser = Printer.GetObject();

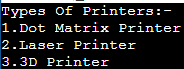
laser.Print("2.Laser Printer");

Printer threeD = Printer.GetObject();

threeD.Print("3.3D Printer");

}

**Output:-**



**Task# 02:- Implement Singleton pattern for Sessions.**

**Solution:-**

public class Session {

protected static Session \_obj;

private Session() {

}

public static Session GetObject() {

if(\_obj == null) {

\_obj = new Session();

}

return \_obj;

}

public void Print(String s) {

Console.WriteLine(s);

}

}

static void Main() {

Console.WriteLine("Different Sessions Examples in Instagra:-");

Session login = Session.GetObject();

dotMatrix.Print("1.Login Session");

Session newPost = Session.GetObject();

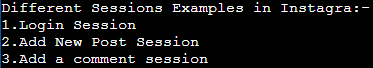
laser.Print("2.Add New Post Session");

Session newComment = Session.GetObject();

threeD.Print("3.Add a comment session");

}

**Output:-**



**Task# 03:- Implement Singleton pattern for logger application.**

**Solution:-**

public class Logger {

protected static Logger \_obj;

private Logger() {

}

public static Logger GetObject() {

if(\_obj == null) {

\_obj = new Logger();

}

return \_obj;

}

public void Print(String s) {

Console.WriteLine(s);

}

}

static void Main() {

Console.WriteLine("Different Login States");

Logger success = Logger.GetObject();

success.Print("1.Login Successfully");

Logger failureByInvalidCredentials = Logger.GetObject();

failureByInvalidCredentials.Print("2.Invalid Credentials");

Logger failureByUserDoesNotExist = Logger.GetObject();

failureByUserDoesNotExist.Print("3.User Does Not Exist");

}

**Output:-**

