



**Marwadi**  
University  
Marwadi Chandarana Group



**FACULTY OF ENGINEERING AND TECHNOLOGY**

Department of Computer Engineering

**01CE0523 - .NET Technologies**

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# **.NET TECHNOLOGIES**

## **(01CE0523)**

### **Lab Manual**

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**Class: 5EC3**

**Batch: A**

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## **Experiment 1**

### **AIM : Program on Class, Object and Constructor**

**Code:** using System;

```
public class Student
{
    String name;
    double cgpi;
    int sem;
    public Student() {
        Console.WriteLine("1. Calling parameterless constructor...");
    }
    public Student(String name)
    {
        this.name = name;
        Console.WriteLine("2. Name: "+ this.name);
    }
    public Student(String name, double cgpi)
    {
        this.name = name;
        this.cgpi = cgpi;
        Console.WriteLine("3. Name: "+ this.name + " CGPI: "+ this.cgpi);
    }
    public Student(String name, double cgpi, int sem)
    {
        this.name = name;
        this.cgpi = cgpi;
        this.sem = sem;
        Console.WriteLine("4. Name: "+ this.name + " CGPI: "+ this.cgpi + "
Sem: "+ this.sem);
    }
}
```



```
public static void Main(String[] args)
{
    Console.WriteLine("Menu\n");
    Console.WriteLine("1. Parameterless Constructor...");
    Console.WriteLine("2. Constructor with one parameter...");
    Console.WriteLine("3. Constructor with two parameter...");
    Console.WriteLine("4. Constructor with three parameter...");
    Console.WriteLine("Enter: ");

    int n = Convert.ToInt32(Console.ReadLine());
    switch (n)
    {
        case 1: Student s1 = new Student();
                break;
        case 2: Student s2 = new Student("Asif");
                break;
        case 3: Student s3 = new Student("Asif", 9.32);
                break;
        case 4: Student s4 = new Student("Asif", 9.32, 5);
                break;

        default: Console.WriteLine("Invalid Input");
                break;
    }
}
```



**Output:**

```
Menu
1. Parameterless Constructor...
2. Constructor with one parameter...
3. Constructor with two parameter...
4. Constructor with three parameter...
Enter:
3
3. Name: Asif CGPI: 9.32
```



## **Experiment 2**

### **AIM : Program on Inheritance and Interface**

#### **Code:**

```
interface C1
{
    void methodC1();
}
interface C2
{
    void methodC2();
}
interface C3
{
    void methodC3();
}
public class IC : C1, C2, C3
{
    public void methodC1()
    {
        Console.WriteLine("Method C1");
    }
    public void methodC2()
    {
        Console.WriteLine("Method C2");
    }
    public void methodC3()
    {
        Console.WriteLine("Method C3");
    }
}
```



```
public class R1
{
    public void methodR1()
    {
        Console.WriteLine("MethodR1");
    }
}
class R11 : R1
{
    public void methodR11()
    {
        Console.WriteLine("MethodR11");
    }
}
class R12 : R1
{
    public void methodR12()
    {
        Console.WriteLine("MethodR12");
    }
}
class R111 : R11
{
    public void methodR111()
    {
        Console.WriteLine("MethodR111");
    }
}
class R112 : R12
{
    public void methodR112()
```



```
        {  
            Console.WriteLine("MethodR112");  
        }  
    }  
    public class Prac2  
    {  
        public static void Main(String[] args)  
        {  
            IC obj1 = new IC();  
            obj1.methodC1();  
            obj1.methodC2();  
            obj1.methodC3();  
  
            R111 r1 = new R111();  
            r1.methodR1();  
            r1.methodR11();  
            r1.methodR111();  
  
            R112 r2 = new R112();  
            r2.methodR112();  
            r2.methodR12();  
        }  
    }  
}
```





**Output:**

```
Method C1  
Method C2  
Method C3  
MethodR1  
MethodR11  
MethodR111  
MethodR112  
MethodR12
```



### Experiment 3

#### **AIM: Program on Polymorphism and Exception Handling**

#### **Code:**

```
public class Calculator
{
    public void Add(int a, int b)
    {
        Console.WriteLine("Add: " + a + " + " + b + " = " + (a+b));
    }
    public void Add(int a, int b, int c)
    {
        Console.WriteLine("Add: " + a + " + " + b + " + " + c + " = " + (a+b+c));
    }
    public int Divide(int a, int b)
    {
        int d = a / b;
        return d;
    }
}

class Prac3
{
    public static void Main(String [] args)
    {
        Console.WriteLine("Choose :\n");
        Console.WriteLine("1. Polymorphism");
        Console.WriteLine("2. Exception Handling\n");
        int n = Convert.ToInt32(Console.ReadLine());
        switch (n){
            case 1: Calculator c = new Calculator();
                    c.Add(1, 2);
                    c.Add(2, 3, 4);
                    break;
            case 2: Console.WriteLine("Exception Handling...");
                    Calculator c1 = new Calculator();
                    try{
                        int d = c1.Divide(10, 0);
                    }catch(ArithmeticException e){
                        Console.WriteLine(e);
                    }
                    break;
        }
    }
}
```



**Output:**

```
Choose :  
  
1. Polymorphism  
2. Exception Handling  
  
1  
Add: 1 + 2: 3  
Add: 2 + 3 + 4: 9
```

```
Choose :  
  
1. Polymorphism  
2. Exception Handling  
  
2  
Exception Handling...  
System.DivideByZeroException: Attempted to divide by zero.  
   at Calculator.Divide(Int32 a, Int32 b) in C:\Users\safet\source\repos\Prac3\Program.cs:line 13  
   at Prac3.Main(String[] args) in C:\Users\safet\source\repos\Prac3\Program.cs:line 35
```



**NOTE:**

**AIM:**

- Font Type: Calibri (Body)
- Font Size: 14
- Bold
- Line Spacing: 1.5

**Code**

- Font Type: **Cascadia Mono**
- Font Size: 10
- Normal
- Line Spacing: 1.0