.NET TECHNOLOGIES
(01CE0523)
Lab Manual

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Experiment 1

AIM : Program on Class, Object and Constructor

Code:

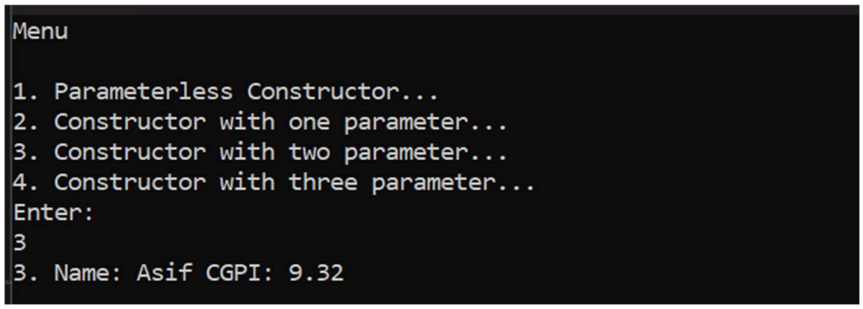
```
using System;
    public class Student
    {
        String name;
        double cgpi;
        int sem;
        public Student() {
            Console.WriteLine("1. Calling parameterless constructor...");
        }
        public Student(String name)
        {
            this.name = name;
            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:

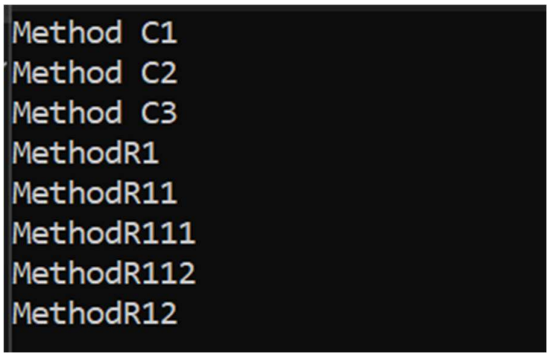
```
interface C1{
    void methodC1();
}
interface C2{
    void methodC2();
}
interface C3{
    void methodC3();
}
public class IC : C1, C2, C3{
    public void methodC1(){
        Console.WriteLine("Method C1");
    }
    public void methodC2(){
        Console.WriteLine("Method C2");
    }
    public 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;
    }
    public void Display(){
        Console.WriteLine("Calculator Display");
    }
}
public class C2{
    public void Display(){
        Console.WriteLine("C2 Display");
    }
}
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();
                    C2 c2 = new C2();
                    c.Add(1, 2);
                    c.Add(2, 3, 4);
                    c.Display();
                    c2.Display();
                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
Calculator Display
C2 Display
```

```
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 49
```