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Date : 20.08.2024

1.Account Details

Program.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace AccountDetails
{
    class Program
    {
        static void Main(string[] args)
        {
            Account acc = new Account();
            Console.WriteLine("Enter account id: ");
            acc.AccountId = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter account type: ");
            acc.Type = Console.ReadLine();
            Console.WriteLine("Enter the balance: ");
            acc.balanceAmount = Convert.ToInt32(Console.ReadLine());
            acc.GetDetails();
            Console.WriteLine("Enter the amount to withdraw: ");
            int amount = Convert.ToInt32(Console.ReadLine());
            if (acc.Withdraw(amount))
            {
                Console.WriteLine("New Balance: " + acc.balanceAmount);
            }
            else
            {
                Console.WriteLine("Oops!Insufficient Balance...");
            }
            Console.ReadKey();
        }
    }
}
```

Account.cs

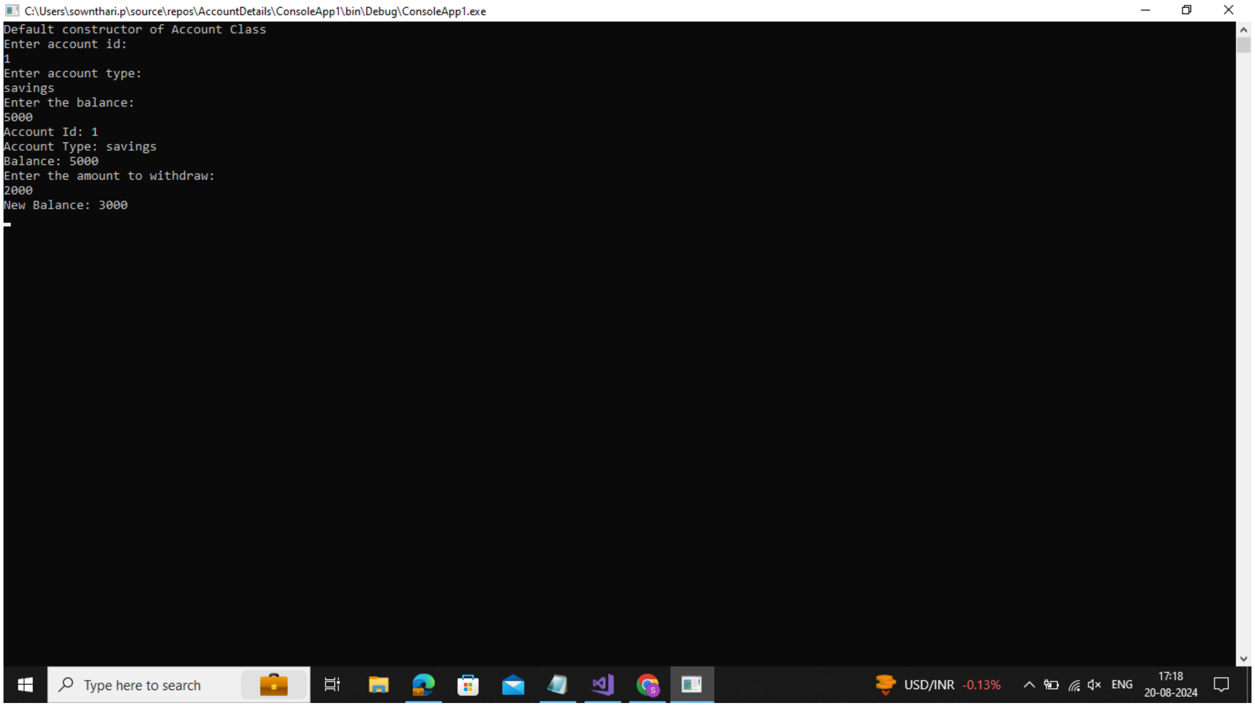
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace AccountDetails
{
    class Account
    {
        private int Id;
        private string accountType;
        private double balance;

        public int AccountId
        {
            get
            {
                return Id;
            }
            set
            {
```

```
        Id = value;
    }
}

public string Type
{
    get
    {
        return accountType;
    }
    set
    {
        accountType = value;
    }
}

public double balanceAmount
{
    get
    {
        return balance;
    }
    set
    {
        balance = value;
    }
}

public Account()
{
    Console.WriteLine("Default constructor of Account Class");
```

```
        }

        public Account(int Id, string accountType, double balance)
        {
            this.Id = Id;
            this.accountType = accountType;
            this.balance = balance;
        }

        public Boolean Withdraw(int amount)
        {
            if (amount > balanceAmount)
            {
                return false;
            }
            else
            {
                balanceAmount = balanceAmount - amount;
            }
            return true;
        }

        public void GetDetails()
        {
            Console.WriteLine("Account Id: " + Id);
            Console.WriteLine("Account Type: " + accountType);
            Console.WriteLine("Balance: " + balance);
        }

    }
}
```

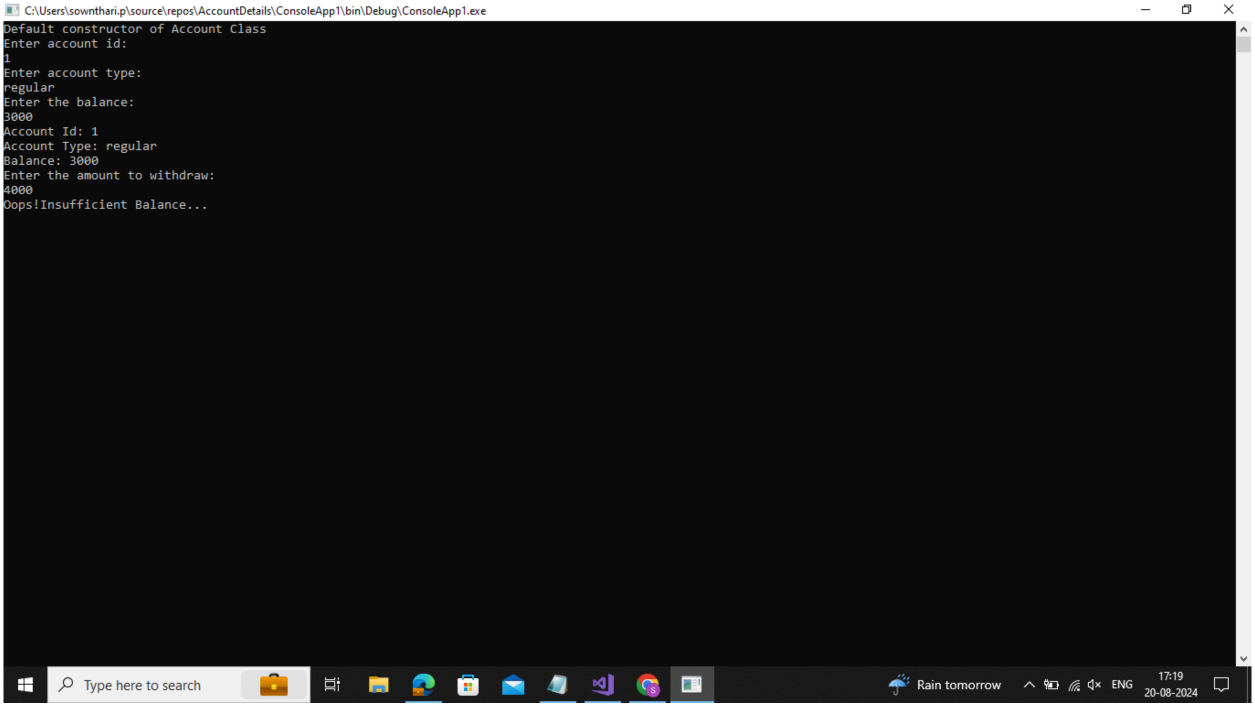
Output:

Case 1:


C:\Users\sownthari.p\source\repos\AccountDetails\ConsoleApp1\bin\Debug\ConsoleApp1.exe
Type here to search
USD/INR -0.13%
ENG
17:18
20-08-2024

```
Default constructor of Account Class
Enter account id:
1
Enter account type:
savings
Enter the balance:
5000
Account Id: 1
Account Type: savings
Balance: 5000
Enter the amount to withdraw:
2000
New Balance: 3000
```

Case 2:


C:\Users\sownthari.p\source\repos\AccountDetails\ConsoleApp1\bin\Debug\ConsoleApp1.exe
Type here to search
Rain tomorrow
ENG
17:19
20-08-2024

```
Default constructor of Account Class
Enter account id:
1
Enter account type:
regular
Enter the balance:
3000
Account Id: 1
Account Type: regular
Balance: 3000
Enter the amount to withdraw:
4000
Oops!Insufficient Balance...
```

2. Calculator program

Calculator.cs

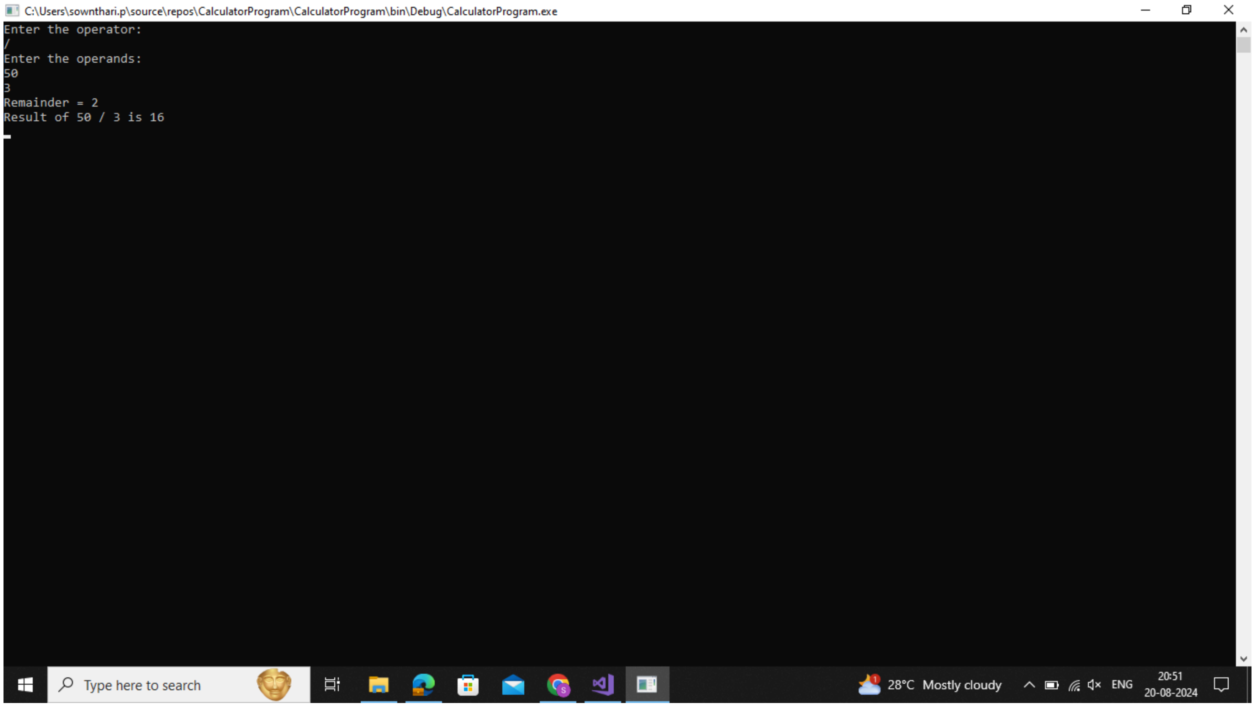
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace CalculatorProgram
{
    class Calculator
    {
        public int Addition(int number1, int number2)
        {
            return number1 + number2;
        }

        public int Subtraction(int number1, int number2)
        {
            return number1 - number2;
        }

        public int Multiplication(int number1, int number2)
        {
            return number1 * number2;
        }

        public int Division(int number1, int number2, out double remainder)
        {
            remainder = number1 % number2;
            return number1 / number2;
        }
    }
}
```

Program.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace CalculatorProgram
{
    class Program
    {
        static void Main(string[] args)
        {
            Calculator cal = new Calculator();
            Console.WriteLine("Enter the operator: ");
            string calculation = Console.ReadLine();
            Console.WriteLine("Enter the operands: ");
            int number1 = Convert.ToInt32(Console.ReadLine());
            int number2 = Convert.ToInt32(Console.ReadLine());
            double remainder=0;
            int result;
            switch (calculation)
            {
                case "+":
                    result = cal.Addition(number1, number2);
                    break;
                case "-":
                    result = cal.Subtraction(number1, number2);
                    break;
                case "*":
                    result = cal.Multiplication(number1, number2);
                    break;
                case "/":
                    result = cal.Division(number1, number2, out remainder);
                    Console.WriteLine($"Remainder = {remainder}");
                    break;
                default:
                    Console.WriteLine("Enter a valid operation:(");
                    return;
            }
            Console.WriteLine($"Result of {number1} {calculation} {number2} is {result}");
            Console.ReadKey();
        }
    }
}
```

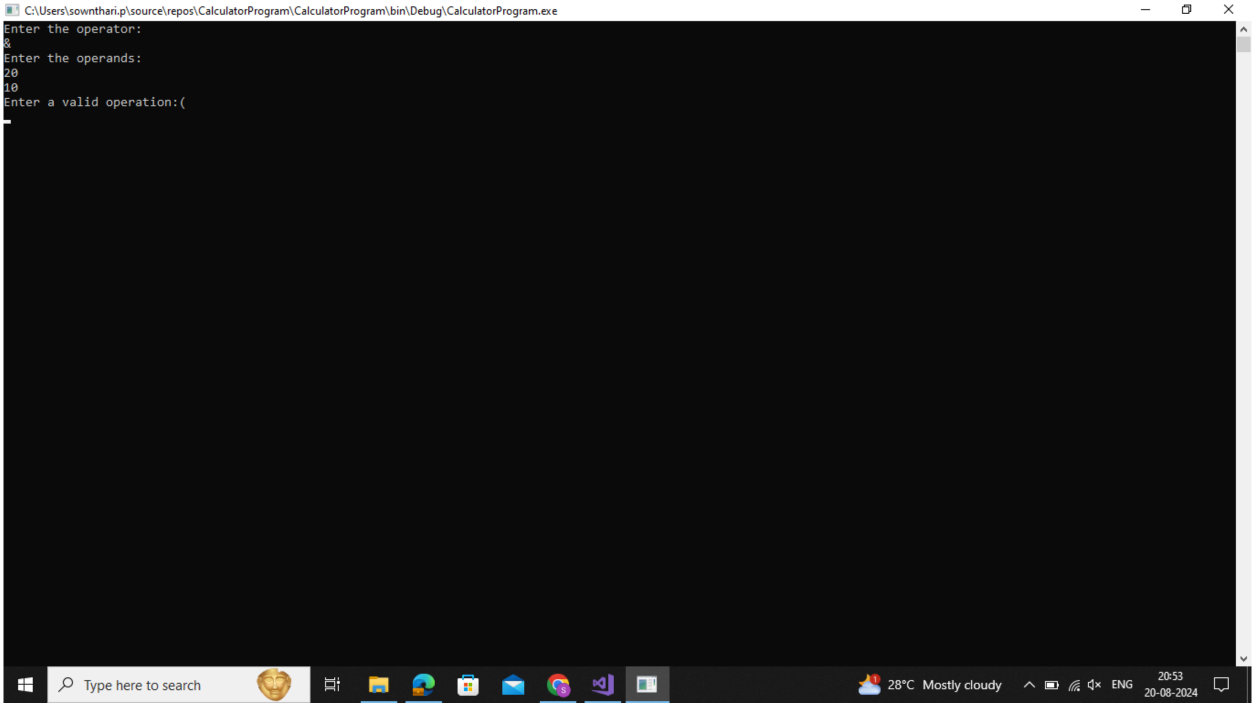
Output:

Case 1:


C:\Users\sownthari.p\source\repos\CalculatorProgram\CalculatorProgram\bin\Debug\CalculatorProgram.exe
Type here to search
28°C Mostly cloudy
ENG
20:51
20-08-2024

```
Enter the operator:
/
Enter the operands:
50
3
Remainder = 2
Result of 50 / 3 is 16
```

Case 2:


C:\Users\sownthari.p\source\repos\CalculatorProgram\CalculatorProgram\bin\Debug\CalculatorProgram.exe
Type here to search
28°C Mostly cloudy
ENG
20:53
20-08-2024

```
Enter the operator:
&
Enter the operands:
20
10
Enter a valid operation:(
```

3. Game Application

Game.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace GameApplication
{
    class Game
    {
        public string Name { get; set; }
        public int MaxNumPlayers { get; set; }

        public override string ToString()
        {
            return $"Maximum number of players for {Name} is {MaxNumPlayers}";
        }
    }
}
```

GameWithTimeLimit.cs

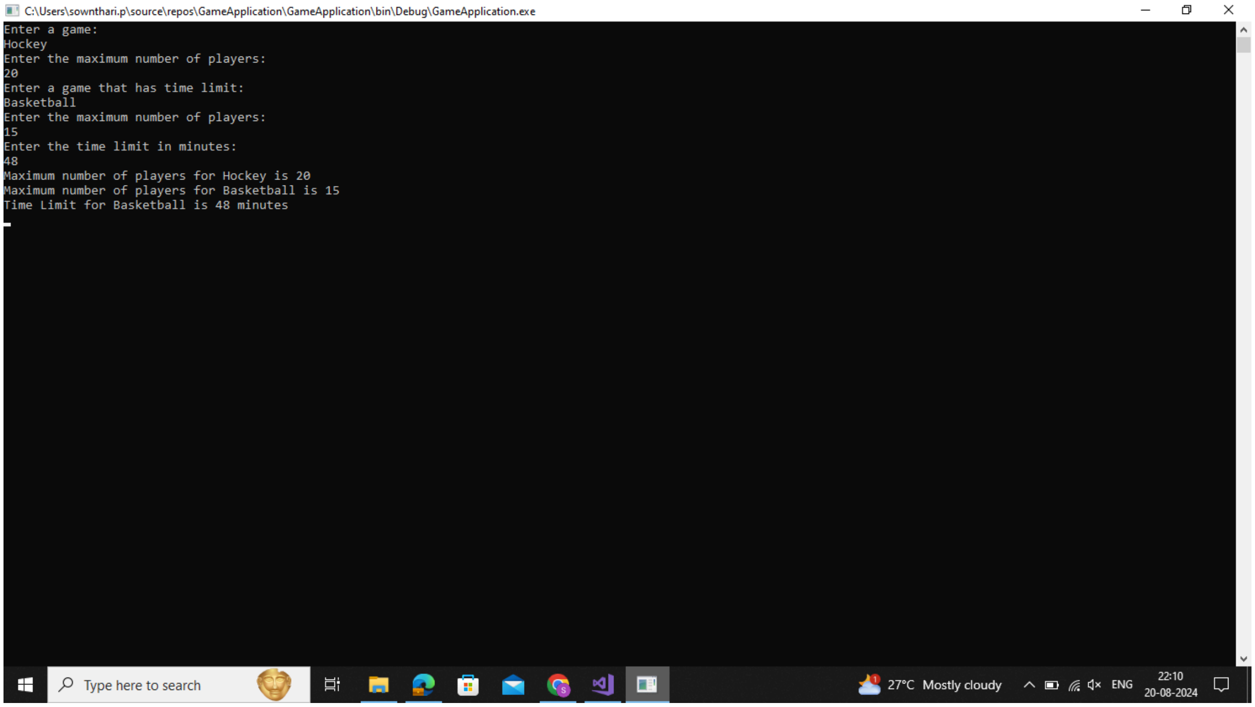
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace GameApplication
{
    class GameWithTimeLimit : Game
    {
        public int TimeLimit { get; set; }

        public override string ToString()
        {
            Console.WriteLine(base.ToString());
            return $"Time Limit for {Name} is {TimeLimit} minutes";
        }
    }
}
```

Program.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace GameApplication
{
    class Program
    {
        static void Main(string[] args)
        {
            Game g = new Game();
            Console.WriteLine("Enter a game: ");
            string game = Console.ReadLine();
            g.Name = game;
            Console.WriteLine("Enter the maximum number of players: ");
            int maxPlayers = Convert.ToInt32(Console.ReadLine());
            g.MaxNumPlayers = maxPlayers;
```

```
          GameWithTimeLimit gwithlimit = new GameWithTimeLimit();
          Console.WriteLine("Enter a game that has time limit: ");
          string gameLimit = Console.ReadLine();
          gwithlimit.Name = gameLimit;
          Console.WriteLine("Enter the maximum number of players: ");
          int maxPlayersLimit = Convert.ToInt32(Console.ReadLine());
          gwithlimit.MaxNumPlayers = maxPlayersLimit;
          Console.WriteLine("Enter the time limit in minutes: ");
          int timeLimit = Convert.ToInt32(Console.ReadLine());
          gwithlimit.TimeLimit = timeLimit;
          Console.WriteLine(g.ToString());
          Console.WriteLine(gwithlimit.ToString());
          Console.ReadKey();
       }
    }
}
```

Output:


C:\Users\sownthari.p\source\repos\GameApplication\GameApplication\bin\Debug\GameApplication.exe
Type here to search
27°C Mostly cloudy
ENG
22:10
20-08-2024

```
Enter a game:
Hockey
Enter the maximum number of players:
20
Enter a game that has time limit:
Basketball
Enter the maximum number of players:
15
Enter the time limit in minutes:
48
Maximum number of players for Hockey is 20
Maximum number of players for Basketball is 15
Time Limit for Basketball is 48 minutes
```