DATE : 20/08/2024

Assignment – 2

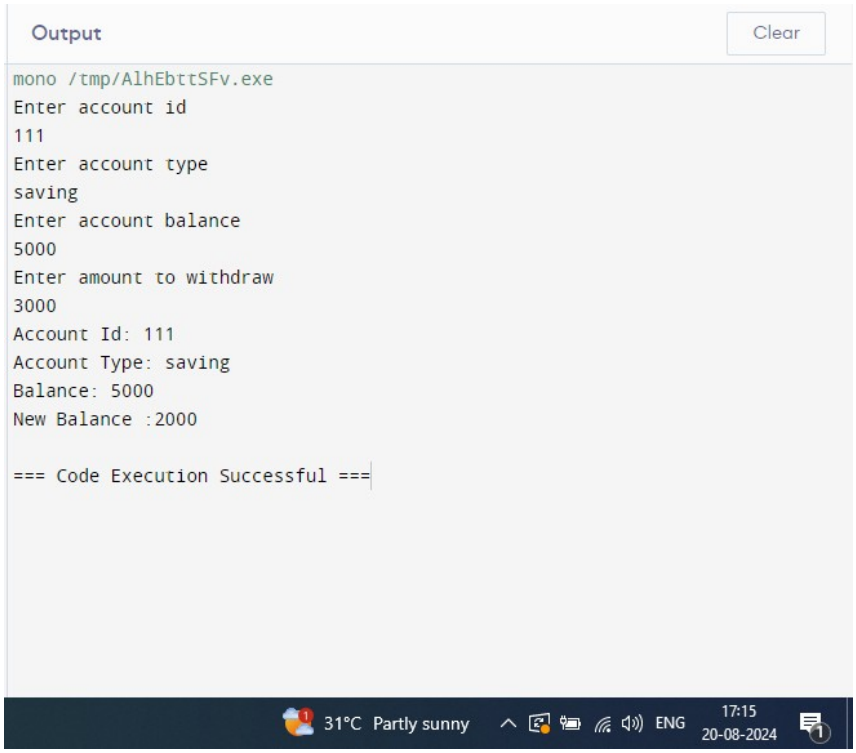
1.AccountDetails

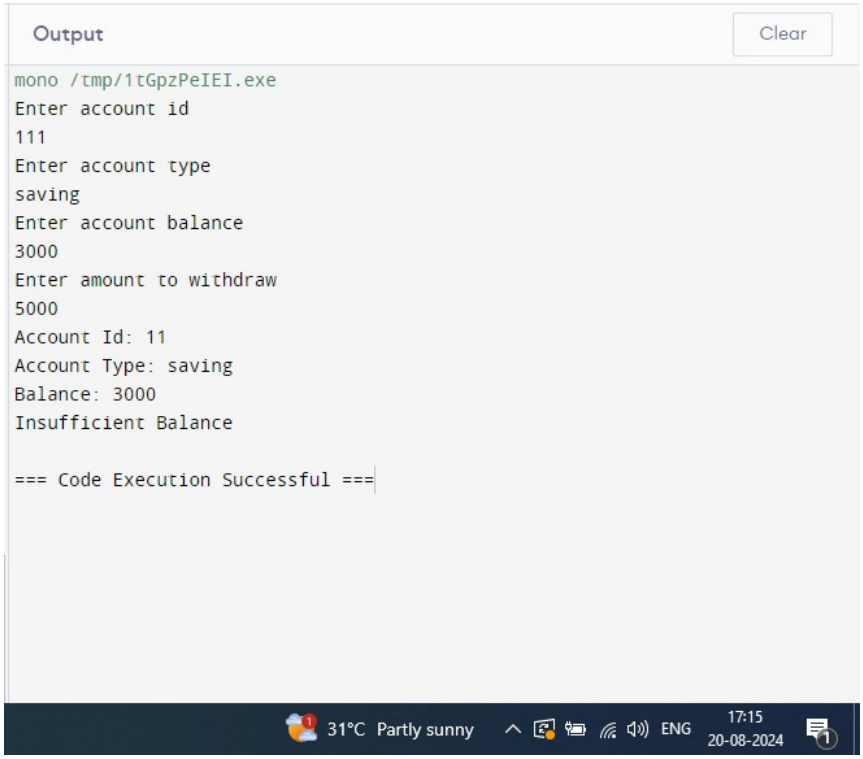
CODE:

```
using System;
public class Account
{
   int id;
   string accountType;
   double balance;
   public Account(){

   }
   public Account(int id,string accountType,double balance){
      this.id=id;
      this.accountType=accountType;
      this.balance=balance;
   }
   public int Id
   {
      get{
         return id;
      }
      set{
         id=value;
      }

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

   }
   public double bal{
      get{
         return balance;
      }
      set{
         balance=value;
```

```
        }

    }
    public bool Withdraw(double amount){
        if(bal>amount){
            bal-=amount;
            return true;
        }
        else{
            return false;
        }
    }
    public void GetDetails(){
        Console.WriteLine("Account Id: "+id);
        Console.WriteLine("Account Type: "+accountType);
        Console.WriteLine("Balance: "+balance);
    }
}
public class Program{
    public static void Main(string[] args)
    {
        Console.WriteLine ("Enter account id");
        int id=Convert.ToInt32(Console.ReadLine());
        Console.WriteLine("Enter account type");
        string type=Console.ReadLine();
        Console.WriteLine("Enter account balance");
        double bal=Convert.ToDouble(Console.ReadLine());

        Account a=new Account(id,type,bal);

        Console.WriteLine("Enter amount to withdraw");
        double amount=Convert.ToDouble(Console.ReadLine());
        a.GetDetails();
        if(a.Withdraw(amount)){
            Console.WriteLine("New Balance :"+a.bal);
        }
        else{
            Console.WriteLine("Insufficient Balance");
        }
    }
}
```

OUTPUT:


Output
Clear
mono /tmp/AlhEbttSFv.exe
Enter account id
111
Enter account type
saving
Enter account balance
5000
Enter amount to withdraw
3000
Account Id: 111
Account Type: saving
Balance: 5000
New Balance :2000
=== Code Execution Successful ===
31°C Partly sunny
ENG
17:15
20-08-2024


Output
Clear
mono /tmp/1tGpzPeIEI.exe
Enter account id
111
Enter account type
saving
Enter account balance
3000
Enter amount to withdraw
5000
Account Id: 11
Account Type: saving
Balance: 3000
Insufficient Balance
=== Code Execution Successful ===
31°C Partly sunny
ENG
17:15
20-08-2024

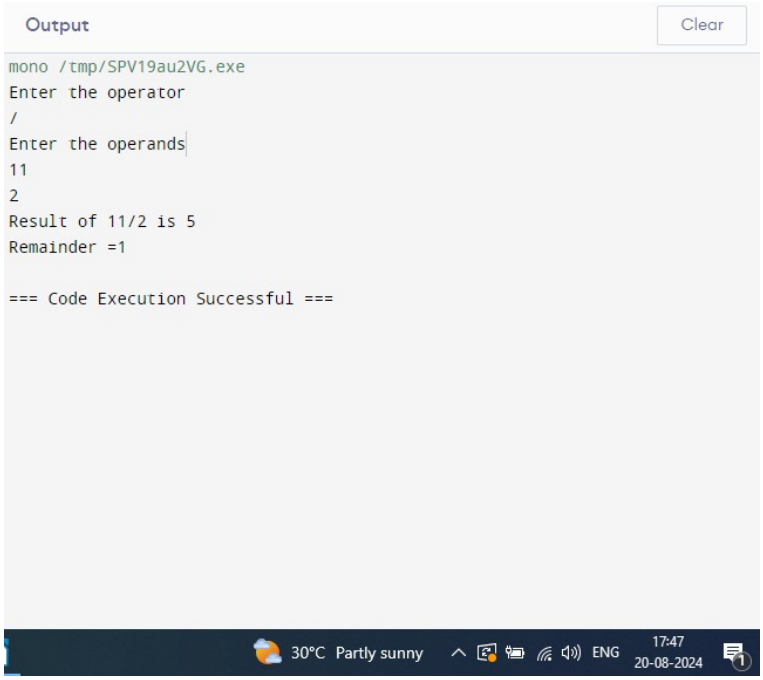
2.CalculatorProgram

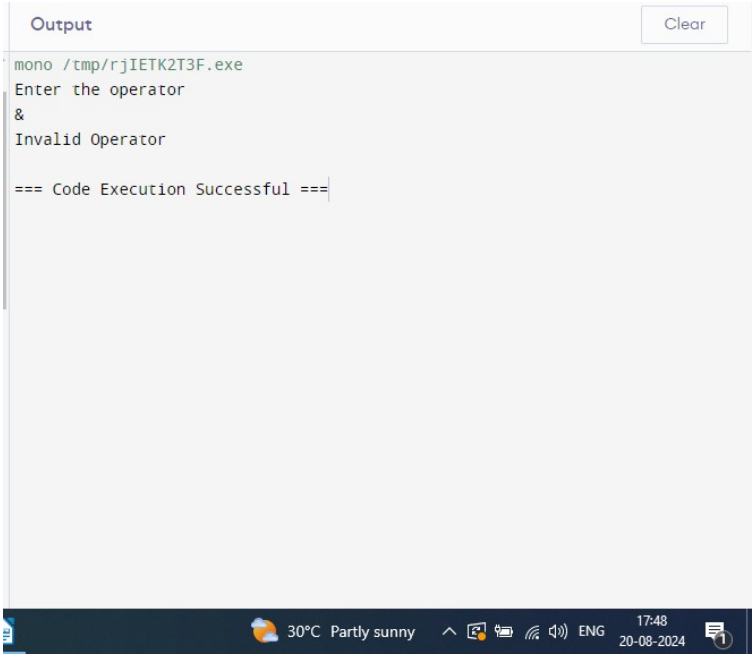
CODE:

```
using System;
public class Calculator
{
   public int Addition(int a,int b){
      return a+b;
   }
   public int Subtraction(int a,int b){
      return a-b;
   }
   public int Multiplication(int a,int b){
      return a*b;
   }
   public double Division(int a,int b,out double remainder){
      remainder=a%b;
      return a/b;
   }
}
public class Program{
   public static void Main(string[] args)
   {
      Console.WriteLine ("Enter the operator");
      string ch=Console.ReadLine();
      Calculator c1=new Calculator();
      int a,b;
      switch(ch){
         case "+":
               Console.WriteLine("Enter the operands");
               a=Convert.ToInt32(Console.ReadLine());
               b=Convert.ToInt32(Console.ReadLine());

               Console.WriteLine($"Result of {a}+{b} is { c1.Addition(a,b)}");
               break;
        case "-":
               Console.WriteLine("Enter the operands");
               a=Convert.ToInt32(Console.ReadLine());
               b=Convert.ToInt32(Console.ReadLine());
               Console.WriteLine($"Result of {a}-{b} is { c1.Subtraction(a,b)}");
               break;
        case "*":
               Console.WriteLine("Enter the operands");
               a=Convert.ToInt32(Console.ReadLine());
               b=Convert.ToInt32(Console.ReadLine());
               Console.WriteLine($"Result of {a}*{b} is {c1.Multiplication(a,b)}");
               break;
```

```
        case "/":
             Console.WriteLine("Enter the operands");
             a=Convert.ToInt32(Console.ReadLine());
             b=Convert.ToInt32(Console.ReadLine());
             double rem;
             double ans=c1.Division(a,b,out rem);
             Console.WriteLine($"Result of {a}/{b} is {ans}");
             Console.WriteLine("Remainder ="+rem);
             break;
        default:
           Console.WriteLine("Invalid Operator");
           break;
      }
   }
}
```

OUTPUT:


Output
Clear
mono /tmp/SPV19au2VG.exe
Enter the operator
/
Enter the operands
11
2
Result of 11/2 is 5
Remainder =1
=== Code Execution Successful ===
30°C Partly sunny
ENG
17:47
20-08-2024


Output
Clear
mono /tmp/rjIETK2T3F.exe
Enter the operator
&
Invalid Operator
=== Code Execution Successful ===
30°C Partly sunny
ENG
17:48
20-08-2024

3. Game and GameWithTimeLimit

CODE:

```
using System;
public 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);
   }
}
public class GameWithTimeLimit : Game{
   public int TimeLimit{get; set;}
   public override string ToString(){

      return ( base.ToString()+"\n"+"Time Limit for "+Name+" is "+TimeLimit+"
minutes");
   }
}
public class Program{
   public static void Main(string[] args)
   {
      Console.WriteLine ("Enter a game");
      string name1=Console.ReadLine();

      Console.WriteLine("Enter the maximum number of players");
      int max_player1=Convert.ToInt32(Console.ReadLine());

      Game firstGame = new Game()
      {
         Name = name1,
         MaxNumPlayers = max_player1
      };

      Console.WriteLine("Enter a game that has time limit");
      string name2 = Console.ReadLine();

      Console.WriteLine("Enter the maximum number of players");
      int max_player2=Convert.ToInt32(Console.ReadLine());

      Console.WriteLine("Enter the time limit in minutes");
      int timeLimit = int.Parse(Console.ReadLine());

      GameWithTimeLimit secondGame = new GameWithTimeLimit()
      {
```

```
            Name = name2,
            MaxNumPlayers = max_player2,
            TimeLimit = timeLimit
        };

        Console.WriteLine(firstGame.ToString());
        Console.WriteLine(secondGame.ToString());
    }

}
```

OUTPUT: