A picture containing sitting

Description automatically generated

**using** **System**;

**namespace** **ECE2310\_HW10\_02**

{

**class** **Driver**

{

**static** **void** Main(string[] args)

{

Random rand = **new** Random();

CheckingAccount defaultCA = **new** CheckingAccount();

SavingsAccount defaultSA = **new** SavingsAccount();

*// Showing the defaults.*

Console.WriteLine(defaultCA);

Console.WriteLine(defaultSA);

*// Showing the*

CheckingAccount ca = **new** CheckingAccount();

ca.FirstName = "Anthony";

ca.LastName = "Jeselnik";

ca.AccountNumber = (uint)rand.Next(10000, 100000);

ca.Balance = 50000;

ca.Withdraw(75000); *// yields error*

ca.Withdraw(10000);

ca.Deposit(1500);

ca.ChargeCredit(2500); *// yields error*

ca.ChargeCredit(1000);

ca.PayCredit(500);

ca.PayCredit();

ca.Withdraw(1500);

Console.WriteLine(ca);

SavingsAccount sa = **new** SavingsAccount();

sa.FirstName = "Ned";

sa.LastName = "Fitzgerald";

sa.AccountNumber = (uint)rand.Next(10000, 100000);

sa.Balance = (double)rand.Next(25000, 50000);

sa.Withdraw(100);

sa.Withdraw(200);

sa.Withdraw(300);

sa.Withdraw(400);

sa.applyInterest(); *// actual case would have boolean true annualy*

Console.WriteLine(sa);

}

}

}

**using** **System**;

**namespace** **ECE2310\_HW10\_02**

{

**public** **abstract** **class** **BankAccount**

{

**private** string \_firstName = "First";

**private** string \_lastName = "Last";

**private** uint \_accountNumber = 0;

**private** double \_balance = 0.00;

**public** string FirstName

{

**get** => \_firstName;

**set** => \_firstName = **value**;

}

**public** string LastName

{

**get** => \_lastName;

**set** => \_lastName = **value**;

}

**public** uint AccountNumber

{

**get** => \_accountNumber;

**set** => \_accountNumber = **value**;

}

**public** double Balance

{

**get** => \_balance;

**set** => \_balance = **value**;

}

**public** BankAccount() { }

**public** **void** Deposit(double amount)

{

Console.ForegroundColor = ConsoleColor.Green;

Console.WriteLine($"[+] Attempting to deposit {amount:C2}.");

Console.ResetColor();

Balance += amount;

}

**public** **virtual** **void** Withdraw(double amount)

{

Console.ForegroundColor = ConsoleColor.Green;

Console.WriteLine($"[+] Attempting to withdraw {amount:C2}.");

Console.ResetColor();

**if** (Balance < amount)

{

Console.ForegroundColor = ConsoleColor.Red;

Console.WriteLine($"[-] Not enough balance to withdraw {amount:C2}.");

Console.ResetColor();

}

**else**

{

Balance -= amount;

}

}

**public** **override** string ToString()

{

**return** ($"[+] Account Information:\n Name: {LastName}, {FirstName}\n Account Number: {AccountNumber.ToString("D5")}\n Balance: {Balance:C2}");

}

}

}

**using** **System**;

**namespace** **ECE2310\_HW10\_02**

{

**public** **class** **CheckingAccount** : BankAccount

{

**private** double \_credit = 0;

**private** double \_creditLimit = 1000;

**public** double Credit

{

**get** => \_credit;

**set**

{

**if** (**value** > Balance)

{

Console.ForegroundColor = ConsoleColor.Red;

Console.WriteLine($"[-] Credit charge {value:C2} is more than account balance.");

Console.ResetColor();

}

**else** if (**value** > \_creditLimit)

{

Console.ForegroundColor = ConsoleColor.Red;

Console.WriteLine($"[-] Credit charge limit is {\_creditLimit:C2}");

Console.WriteLine($" Credit charge of {value:C2} not complete.");

Console.ResetColor();

}

**else**

{

\_credit = **value**;

}

}

}

**public** CheckingAccount() { }

**public** **void** PayCredit()

{

Balance -= Credit;

Credit = 0;

}

**public** **void** PayCredit(double amount)

{

Balance -= amount;

Credit -= amount;

}

**public** **void** ChargeCredit(double amount)

{

Console.ForegroundColor = ConsoleColor.Green;

Console.WriteLine($"[+] Attempting to charge credit {amount:C2}.");

Console.ResetColor();

Credit += amount;

}

**public** **override** string ToString()

{

**return** ($"[+] Account Information:\n Name: {LastName}, {FirstName}\n Account Type: Checking\n Account Number: {AccountNumber.ToString("D5")}\n Balance: {Balance:C2}\n Credit Due: {Credit:C2}\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

}

}

}

**using** **System**;

**namespace** **ECE2310\_HW10\_02**

{

**public** **class** **SavingsAccount** : BankAccount

{

**private** int \_withdrawCount = 3;

**private** double \_withdrawLimit = 1000.00;

**private** double \_interestRate = 0.002;

**public** int WithdrawCount

{

**get** => \_withdrawCount;

**set** => \_withdrawCount = **value**;

}

**public** double WithdrawLimit

{

**get** => \_withdrawLimit;

**set** => \_withdrawLimit = **value**;

}

**public** double InterestRate

{

**get** => \_interestRate;

**set** => \_interestRate = **value**;

}

**public** SavingsAccount() { }

**public** **void** applyInterest()

{

Balance += Balance \* InterestRate;

}

**public** **override** **void** Withdraw(double amount)

{

**if** (WithdrawCount == 0)

{

Console.ForegroundColor = ConsoleColor.Red;

Console.WriteLine($"[-] Exceeded monthly withdrawal count of {WithdrawCount}.");

Console.ResetColor();

}

**else**

{

**base**.Withdraw(amount);

WithdrawCount--;

}

}

**public** **override** string ToString()

{

**return** ($"[+] Account Information:\n Name: {LastName}, {FirstName}\n Account Type: Savings\n Account Number: {AccountNumber.ToString("D5")}\n Balance: {Balance:C2}\n Interest Rate: {InterestRate \* 100}%\n Withdrawal Limit: {WithdrawLimit:C2}\n Withdrawal Count: {WithdrawCount}\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

}

}

}