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| **ChainOfResponsibilityATM (The Client)** |
| **Line** | **Code** |
| **1****2****3****4****5****6****7****8****9****10****11****12****13****14****15****16****17****18****19****20****21****22** | **using** System;**namespace** ChainOfResposibilityATM { **class** Program { **static void** Main(**string**[] args) { **while** (**true**) { Console.Write("Amount>>$"); **string** sAmount = Console.ReadLine().Trim(); **if** (sAmount == "") **break**; **try** { **uint** amount = **uint**.Parse(sAmount); ATM.Withdraw(amount); ATM.Show(); } **catch** (Exception e) { Console.WriteLine("Withdraw fail due to:{0}",e.Message); } } Console.WriteLine("Program ended"); Console.ReadKey(); } }} |

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| **ChainOfResponsibilityATM (ATM Class)** |
| **Line** | **Code** |
| **1****2****3****4****5****6****7****8****9****10****11****12****13****14****15****16****17****18****19****20****21****22****23****24** | **using** System;**namespace** ChainOfResposibilityATM { **class** ATM { **static private** MoneySlot firstMoneySlot; **static** ATM() { firstMoneySlot = **new** MoneySlot100(20, **new** MoneySlot50(20, **new** MoneySlot20(20, **new** MoneySlot5(20)))); } **static public void** Withdraw(**uint** amount) { firstMoneySlot.Withdraw(amount); } **static public void** Show() { Console.WriteLine("Remaining:"); MoneySlot ms = firstMoneySlot; **while** (ms != **null**) { ms.Show(); ms = ms.Successor; } } }} |

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| **ChainOfResponsibilityATM (MoneySlot Class)** |
| **Line** | **Code** |
| **1****2****3****4****5****6****7****8****9****10****11****12****13****14****15****16****17****18****19****20** | **using** System;**namespace** ChainOfResposibilityATM { **abstract class** MoneySlot { **public readonly ushort** Value; **public uint** Quantity; **public** MoneySlot Successor; **protected** MoneySlot(**ushort value**, **uint** quantity, MoneySlot successor) { Value = **value**; Quantity = quantity; Successor = successor; } **public void** Show() { Console.WriteLine("\t${0}\t: X{1}",Value,Quantity); } **abstract public void** Withdraw(**uint** amount); }} |

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| **ChainOfResponsibilityATM (MoneySlot100 Class)** |
| **Line** | **Code** |
| **1****2****3****4****5****6****7****8****9****10****11****12****13****14****15****16****17****18****19****20****21****22****23****24** | **using** System;**namespace** ChainOfResposibilityATM { **class** MoneySlot100 : MoneySlot { **public** MoneySlot100(**ushort** quantity, MoneySlot succesor = **null**) : **base**(100, quantity, succesor) { } **public override void** Withdraw(**uint** amount) { **uint** n = amount / 100;//Capture the no of piece needed **uint** balance = amount % 100;//The balace need to pass to Successor **if** (n > Quantity) { balance += (n - Quantity) \* 100; n = Quantity; } **if** (balance > 0) { **if** (Successor == **null**) **throw new** Exception("Insufficient Money!"); Successor.Withdraw(balance); } **if** (n > 0) { Console.WriteLine("$100\tX{0}", n); Quantity = Quantity - n; } } }} |

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| **ChainOfResponsibilityATM (MoneySlot50 Class)** |
| **Line** | **Code** |
| **1****2****3****4****5****6****7****8****9****10****11****12****13****14****15****16****17****18****19****20****21****22****23****24** | **using** System;**namespace** ChainOfResposibilityATM { **class** MoneySlot50 : MoneySlot { **public** MoneySlot50(**ushort** quantity, MoneySlot succesor = **null**) : **base**(50, quantity, succesor) { } **public override void** Withdraw(**uint** amount) { **uint** n = amount / 50;//Capture the no of piece needed **uint** balance = amount % 50;//The balace need to pass to Successor **if** (n > Quantity) { balance += (n - Quantity) \* 50; n = Quantity; } **if** (balance > 0) { **if** (Successor == **null**) **throw new** Exception("Insufficient Money!"); Successor.Withdraw(balance); } **if** (n > 0) { Console.WriteLine("$50\tX{0}", n); Quantity = Quantity - n; } } }} |

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| **ChainOfResponsibilityATM (MoneySlot20 Class)** |
| **Line** | **Code** |
| **1****2****3****4****5****6****7****8****9****10****11****12****13****14****15****16****17****18****19****20****21****22****23****24** | **using** System;**namespace** ChainOfResposibilityATM { **class** MoneySlot20 : MoneySlot { **public** MoneySlot20(**ushort** quantity, MoneySlot succesor = **null**) : **base**(20, quantity, succesor) { } **public override void** Withdraw(**uint** amount) { **uint** n = amount / 20;//Capture the no of piece needed **uint** balance = amount % 20;//The balace need to pass to Successor **if** (n > Quantity) { balance += (n - Quantity) \* 20; n = Quantity; } **if** (balance > 0) { **if** (Successor == **null**) **throw new** Exception("Insufficient Money!"); Successor.Withdraw(balance); } **if** (n > 0) { Console.WriteLine("$20\tX{0}", n); Quantity = Quantity - n; } } }} |

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| **ChainOfResponsibilityATM (MoneySlot5 Class)** |
| **Line** | **Code** |
| **1****2****3****4****5****6****7****8****9****10****11****12****13****14****15****16****17****18****19****20****21****22****23****24** | **using** System;**namespace** ChainOfResposibilityATM { **class** MoneySlot5 : MoneySlot { **public** MoneySlot5(**ushort** quantity, MoneySlot succesor = **null**) : **base**(5, quantity, succesor) { } **public override void** Withdraw(**uint** amount) { **uint** n = amount / 5;//Capture the no of piece needed **uint** balance = amount % 5;//The balace need to pass to Successor **if** (n > Quantity) { balance += (n - Quantity) \* 5; n = Quantity; } **if** (balance > 0) { **if** (Successor == **null**) **throw new** Exception("Insufficient Money!"); Successor.Withdraw(balance); } **if** (n > 0) { Console.WriteLine("$5\tX{0}", n); Quantity = Quantity - n; } } }} |