**Program :-**

using System;

using System.Collections.Generic;

using System.Linq;

public class Customer

{

public string Name {get; set;}

public DateTime PurchasedDate {get; set;}

public int Price {get; set;}

}

public class CustomerRewards

{

public string Name {get; set;}

public string Month {get; set;}

public int TotalMonthlyReward {get; set;}

}

public class HelloWorld

{

public static void Main(string[] args)

{

List<Customer> custData = new List<Customer>()

{

new Customer {Name = "Anuj Arora",PurchasedDate = DateTime.Parse("11/01/2023"),Price = 200},

new Customer {Name = "Anuj Arora",PurchasedDate = DateTime.Parse("11/15/2023"),Price = 250},

new Customer {Name = "Anuj Arora",PurchasedDate = DateTime.Parse("11/30/2023"),Price = 300},

new Customer {Name = "Rajesh Khanna",PurchasedDate = DateTime.Parse("11/01/2023"),Price = 400},

new Customer {Name = "Rajesh Khanna",PurchasedDate = DateTime.Parse("11/15/2023"),Price = 450},

new Customer {Name = "Rajesh Khanna",PurchasedDate = DateTime.Parse("11/30/2023"),Price = 500},

new Customer {Name = "Anuj Arora",PurchasedDate = DateTime.Parse("12/01/2023"),Price = 600},

new Customer {Name = "Anuj Arora",PurchasedDate = DateTime.Parse("12/15/2023"),Price = 650},

new Customer {Name = "Anuj Arora",PurchasedDate = DateTime.Parse("12/30/2023"),Price = 700},

new Customer {Name = "Rajesh Khanna",PurchasedDate = DateTime.Parse("12/01/2023"),Price = 800},

new Customer {Name = "Rajesh Khanna",PurchasedDate = DateTime.Parse("12/15/2023"),Price = 850},

new Customer {Name = "Rajesh Khanna",PurchasedDate = DateTime.Parse("12/30/2023"),Price = 900},

new Customer {Name = "Anuj Arora",PurchasedDate = DateTime.Parse("01/01/2024"),Price = 150},

new Customer {Name = "Anuj Arora",PurchasedDate = DateTime.Parse("01/15/2024"),Price = 160},

new Customer {Name = "Anuj Arora",PurchasedDate = DateTime.Parse("01/30/2024"),Price = 170},

new Customer {Name = "Rajesh Khanna",PurchasedDate = DateTime.Parse("01/01/2024"),Price = 180},

new Customer {Name = "Rajesh Khanna",PurchasedDate = DateTime.Parse("01/15/2024"),Price = 190},

new Customer {Name = "Rajesh Khanna",PurchasedDate = DateTime.Parse("01/30/2024"),Price = 200}

};

/\*Console.Write("Name\tDate of Purchase\tAmount\n\n");

foreach(Customer cust in custData)

{

Console.Write("{0}\t{1}\t{2}\n\n",cust.Name,cust.PurchasedDate.ToString("dd/MM/yyyy"),cust.Price);

}\*/

var custGrpResult = custData.GroupBy(c => new {c.Name,Month = c.PurchasedDate.ToString("MMMM")}).Select(custGrp => new {custGrp.Key.Name,custGrp.Key.Month,TotalPurchase = custGrp.Sum(c => c.Price)});

List<CustomerRewards> lstCustRewards = new List<CustomerRewards>();

foreach (var custGrpRec in custGrpResult)

{

int TotalMonthlyReward = 0;

Console.WriteLine(custGrpRec);

if(custGrpRec.TotalPurchase > 100)

{

int extraHundredAmount = custGrpRec.TotalPurchase - 100;

TotalMonthlyReward = 2 \* extraHundredAmount + 1 \* 50;

}

if((custGrpRec.TotalPurchase > 50) && (custGrpRec.TotalPurchase < 100))

{

int extraFiftyAmount = custGrpRec.TotalPurchase - 50;

TotalMonthlyReward = 1 \* extraFiftyAmount;

}

Console.WriteLine("TotalMontlyReward = \t{0}\n\n",TotalMonthlyReward);

lstCustRewards.Add(

new CustomerRewards {Name = custGrpRec.Name,Month = custGrpRec.Month,TotalMonthlyReward = TotalMonthlyReward});

}

var custGrpRewardResult = lstCustRewards.GroupBy(cust => new {Name = cust.Name}).Select(custRewardGrp => new {custRewardGrp.Key.Name,TotalRewards = custRewardGrp.Sum(crg => crg.TotalMonthlyReward)});

foreach (var custGrpRewardRec in custGrpRewardResult)

{

Console.Write(custGrpRewardRec+"\n\n");

}

}

}

**Execution Result** **:-**

mono /tmp/vkuL2covKG.exe

{ Name = Anuj Arora, Month = November, TotalPurchase = 750 }

TotalMontlyReward = 1350

{ Name = Rajesh Khanna, Month = November, TotalPurchase = 1350 }

TotalMontlyReward = 2550

{ Name = Anuj Arora, Month = December, TotalPurchase = 1950 }

TotalMontlyReward = 3750

{ Name = Rajesh Khanna, Month = December, TotalPurchase = 2550 }

TotalMontlyReward = 4950

{ Name = Anuj Arora, Month = January, TotalPurchase = 480 }

TotalMontlyReward = 810

{ Name = Rajesh Khanna, Month = January, TotalPurchase = 570 }

TotalMontlyReward = 990

{ Name = Anuj Arora, TotalRewards = 5910 }

{ Name = Rajesh Khanna, TotalRewards = 8490 }