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CSC-162-IN1

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Lab Assignment 7 – Person and Customer Classes Reference Document

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Pseudo-code

This program demonstrates the creation of Person and Customer objects.

DemoCustomer

Begin main(String[] : args)

1. Create ArrayList of Person objects as people
2. Populate Person ArrayList using Person constructors
3. Create ArrayList of Customer objects as customers
4. Populate Customer ArrayList using Customer constructors
5. displayObject(people)
6. displayObject(customers)
7. Print "Total customers: " + Customer.getTotalCustomers()
8. Print "Total people: " + People.getTotalPersons()

End

Begin displayObject(Person : x)

1. Print "First name: " + x.getFirstName() + "\nDate created: " + x.getDateCreated()

End

Begin displayObject(ArrayList <E> : x)

1. For object in ArrayList x
2. Print p + "\n"

End

The Person class contains the variables, constructors, and methods to create Person objects

Person

1. Create static integer variable for total person objects created as totalPersons
2. Create String variable for Person's first name as firstName
3. Create String variable for Person's last name as lastName
4. Create String variable for Person's street address as streetAddress
5. Create String variable for Person's city as city
6. Create String variable for Person's state as state

7. Create one dimensional, 5 element integer array for zip code digits as zipCodeDigits
8. Create String variable for zip code as zipCode
9. Create one dimensional, 10 element integer array for phone number as phoneNumDigits
10. Create String variable for Person's phone number as phoneNum
11. Create Date variable for object creation date as dateCreated

Begin Person()

1. Call zipCodeDigitsToString(zipCodeDigits) to format digits
2. Call phoneNumberDigitsToString(phoneNumDigits) to format digits
3. dateCreated = get current date

End

Begin Person(String : first, String : last)

1. firstName = first
2. lastName = last
3. Call zipCodeDigitsToString(zipCodeDigits) to format digits
4. Call phoneNumberDigitsToString(phoneNumDigits) to format digits
5. dateCreated = get current date
6. Call incrementPerson()

End

Begin Person(String : first, String : last, int[] : phone)

1. firstName = first
2. lastName = last
3. Call zipCodeDigitsToString(zipCodeDigits) to format digits
4. Call phoneNumberDigitsToString(phone) to format digits
5. dateCreated = get current date
6. Call incrementPerson()

End

Begin Person(String : first, String : last, String : street, String : city, String : State, int[] : zip)

1. firstName = first
2. lastName = last
3. streetAddress = street
4. city = city
5. state = state
6. Call zipCodeDigitsToString(zip) to format digits
7. Call phoneNumberDigitsToString(phoneNumDigits) to format digits
8. dateCreated = get current date
9. Call incrementPerson()

End

Begin Person(String : first, String : last, int[] : phone, String : street, String : city, String : State, int[] : zip)

1. firstName = first
2. lastName = last
3. streetAddress = street
4. city = city
5. state = state
6. Call zipCodeDigitsToString(zip) to format digits
7. Call phoneNumberDigitsToString(phone) to format digits
8. dateCreated = get current date
9. Call incrementPerson()

End

Begin getTotalPersons()

1. Return totalPersons

End

Begin incrementPerson()

1. totalPersons += 1

End

Begin getFirstName()

1. Return firstName

End

Begin setFirstName(String : f)

1. firstName = f

End

Begin getLastName()

1. Return lastName

End

Begin setLastName(String : l)

1. lastName = l

End

Begin getStreetAddress()

1. Return streetAddress

End

Begin setStreetAddress(String : address)

    1.   streetAddress = address

End

Begin getCity()

    1.   Return city

End

Begin setCity(String : city)

    1.   city = city

End

Begin getState()

    1.   Return state

End

Begin setState(String : state)

    1.   state = state

End

Begin getZipCode()

    1.   Return zipCode

End

Begin setZipCode(String : zip)

    1.   zipCode = zip

End

Begin setZipCode(int[] : zip)

    1.   Call zipCodeDigitsToString(zip)

End

Begin getPhoneNumber()

    1.   Return phoneNum

End

Begin setPhoneNumber(String : p)

    1.   phoneNum = p

End

Begin setPhoneNumber(int[] : p)

1. Call phoneNumDigitsToString(p)

End

Begin getDateCreated()

1. Return dateCreated

End

Begin zipCodeDigitsToString(int[] : d)

1. zipCode = convert integer array elements to string of integers as "XXXXX"

End

Begin phoneNumDigitsToString(int[] : d)

1. phoneNum = convert integer array elements to string of integers as "XXX-XXX-XXXX"

End

Begin toString()

1. Return "First name: " + firstName + "\nLast name: " + lastName + "\nStreet: " + streetAddress + "\nCity: " + city + "\nState: " + state + "\nZip Code: " + zipCode + "\nPhone Number: " + phoneNum + "\nDate added: " + dateCreated

End

The Customer class contains the variables, constructors, and methods to create Customer objects

Customer

1. Create integer variable for total customers as totalCustomers
2. Create String variable for Customer customer number as custNum
3. Create one dimensional 10 digit integer array for digits of customer number as custNumDigits
4. Create boolean variable for mailing list as mailListOptIn

Begin Customer()

1. Empty constructor

End

Begin Customer(String : first, String : last)

1. Call setFirstName(first)
2. Call setLastName(last)

3. Call incrementCustomers()
4. Call setCustNum()
5. Call incrementPerson()

End

Begin Customer(String : first, String : last, int[] : phone)

1. Call setFirstName(first)
2. Call setLastName(last)
3. Call setPhoneNumber(phone)
4. Call incrementCustomers()
5. Call setCustNum()
6. Call incrementPerson()

End

Begin Customer(String : first, String : last, String : street, String : city, String : state, int[] : zip)

1. Call setFirstName(first)
2. Call setLastName(last)
3. Call setStreetAddress(street)
4. Call setCity(city)
5. Call setState(state)
6. Call setZipCode(zip)
7. Call incrementCustomers()
8. Call setCustNum()
9. Call incrementPerson()

End

Begin Customer(String : first, String : last, String : street, String : city, String : state, int[] : zip, boolean : mList)

1. Call setFirstName(first)
2. Call setLastName(last)
3. Call setStreetAddress(street)
4. Call setCity(city)
5. Call setState(state)
6. Call setZipCode(zip)
7. Call incrementCustomers()
8. Call setCustNum()
9. Call setMailListOptIn(mList)
10. Call incrementPerson()

End

Begin Customer(String : first, String : last, int[] : phone, String : street, String : city, String : state, int[] : zip)

1. Call setFirstName(first)
2. Call setLastName(last)
3. Call setStreetAddress(street)
4. Call setCity(city)
5. Call setState(state)
6. Call setZipCode(zip)
7. Call setPhoneNumber(phone)
8. Call incrementCustomers()
9. Call setCustNum()
10. Call incrementPerson()

End

Begin Customer(String : first, String : last, int[] : phone, String : street, String : city, String : state, int[] : zip, boolean : mList)

1. Call setFirstName(first)
2. Call setLastName(last)
3. Call setStreetAddress(street)
4. Call setCity(city)
5. Call setState(state)
6. Call setZipCode(zip)
7. Call setPhoneNumber(phone)
8. Call incrementCustomers()
9. Call setCustNum()
10. Call setMailListOptIn(mList)
11. Call incrementPerson()

End

Begin incrementCustomers()

1. totalCustomers += 1

End

Begin getTotalCustomers()

1. Return totalCustomers

End

Begin getCustNum()

1. Return custNum

End

Begin setCustNum()

1. String c = string representation of totalCustomer integer

2. String t = ""
   3. For int i = 0; i < 10 – length of c; i++
   4.   t = t + "0"
   5. custNum = t + c

End

Begin isMailListOptIn()

   1. Return mailListOptIn

End

Begin setMailListOptIn(boolean : m)

   1. mailListOptIn = m

End

Begin toString()

   1. Return super.toString() + "\nCustomer number: " + custNum + "\nMailing List: " + mailListOptIn

End

UML

See next page

DemoCustomer

+main(String[])
+displayObject(Person)
+displayObject(ArrayList<E>)

Person

-totalPersons : int
-firstName : String
-lastName : String
-streetAddress : String
-city : String
-state : String
-zipCodeDigits : int[5]
-zipCode : String
-phoneNumDigits : int[10]
-phoneNum : String
-dateCreated : Date

+Person()
+Person(String, String)
+Person(String, String, int[])
+Person(String, String, String, String, String, int[])
+Person(String, String, int[], String, String, String, int[])
+getTotalPersons() : int
+incrementPerson() : void
+getFirstName() : String
+setFirstName(String) : void
+getLastName() : String
+setLastName(String) : void
+getStreetAddress() : String
+setStreetAddress(String) : void
+getCity() : String
+setCity(String) : void
+getState() : String
+setState(String) : void
+getZipCode() : String
+setZipCode(String) : void
+setZipCode(int[]) : void
+getPhoneNumber() : String
+setPhoneNumber(String) : void
+setPhoneNumber(int[]) : void
+getDateCreated() : Date
-zipCodeDigitsToString(int[]) : void
-phoneNumDigitsToString(int[]) : void
+toString() : String

Customer

-totalCustomers : int
-custNum : String
-custNumDigits : int[]
-mailListOptIn : boolean

+Customer()
+Customer(String, String)
+Customer(String, String, int[])
+Customer(String, String, String, String, String, int[])
+Customer(String, String, String, String, String, int[], boolean)
+Customer(String, String, int[], String, String, String, int[])
+Customer(String, String, int[], String, String, String, int[], boolean)
-incrementCustomers() : void
+getTotalCustomers() : int
+getCustNum() : String
-setCustNum() : void
+isMailListOptIn() : boolean
+setMailListOptIn(boolean) : void
+toString() : String