Design Document CS 116  
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**Template Classes:**

**Customers (Super Class)**

* Super Class of Award class,
* Implements Serializable.
* Reads through the “Customers.txt” file with getCustomerData()
* public Vector Customers()   
   - Creates a vector of Customers
* accessor, mutator and toString methods.
* public int binarySearchVector(Vector<Customers> custom, int key, int start , int end)
* -searches the key number that is used by travel agent classes. uses recursion  
    
  **Award**
* extends Customers class
* public String decideAgency()   
   - Decides travel agency according to uniform probability.
* public int milesAwarded()   
   - Distribute miles from 1000-35000 according to uniform probability.
* public double awardPrice(int mil)   
   - Converts miles to dollar price (each mile is worth 0.06 dollars).
* public String ticketResult(double mil)   
   - Decides the possible destinations where the customers can travel depending on the miles they received. It takes miles as an argument.  
  **Helper Classes:**  
  **Expediar (sub Class)**
* extends TravelAgents
* Implements getRandom() method  
   - Creates a vector of Customers by calling the method from the Customers Class.
* Uses **uniform** probability to generate random customer numbers from the full range of data (1-45) and favors customers of ALL categories  
    
  **Coldwire (sub Class)**
* extends TravelAgents
* Implements getRandom() method  
   - Creates a vector of Customers by calling the method from the Customers Class.
* Uses **exponential** probability, to generate random customer numbers of range 1-10 and favors customers of A and B categories.  
    
  **CheapTickets (sub Class)**
* extends TravelAgents
* Implements getRandom() method  
   - Creates a vector of Customers by calling the method from the Customers Class.
* Uses **normal** probability to generate random customer numbers of range 36-45 and favors customers of D and E categories.  
    
  **GetYourTickets (sub Class)**
* extends TravelAgents
* Implements getRandom() method  
   - Creates a vector of Customers by calling the method from the Customers Class.
* Uses **normal** probability, to generate random customer numbers of range 1-19 and favors customers of A and B categories  
    
  **BetYourTickets (sub Class)**
* extends TravelAgents
* Implements getRandom() method  
   - Creates a vector of Customers by calling the method from the Customers Class.
* Uses **exponential** probability, to generate random customer numbers of range 20-24 and favors customers of C category  
   **Abstract Class:**  
   **TravelAgents (Abstract Class)**
* public abstract int CustomerNumber();  
   - This is an abstract method implemented by *Expediar*, *Coldwire*,  
    *CheapTickets*, *GetYourTickets* and *BetYourTickets*.  
   **Enum Classes:**  
   **TravelAgencyType(Enum Class)**
* It is an ***enum*** class that has customer categories ALL, AB, C, DE.  
    
  **AgencyType (Enum Class)**
* It is an ***enum*** class that includes EXPEDIAR, COLDWIRE, CHEAPTICKETS, GETYOURTICKETS, BETYOURTICKETS.  
    
   **Client Class:**  
   **LotterySimulator (Main Method)**
* It has the main method.
* Implements Serializable
* Combines all the files together and produces the desired output.
* Makes an “Output.txt” file.
* Makes “Customer.ser” file.

