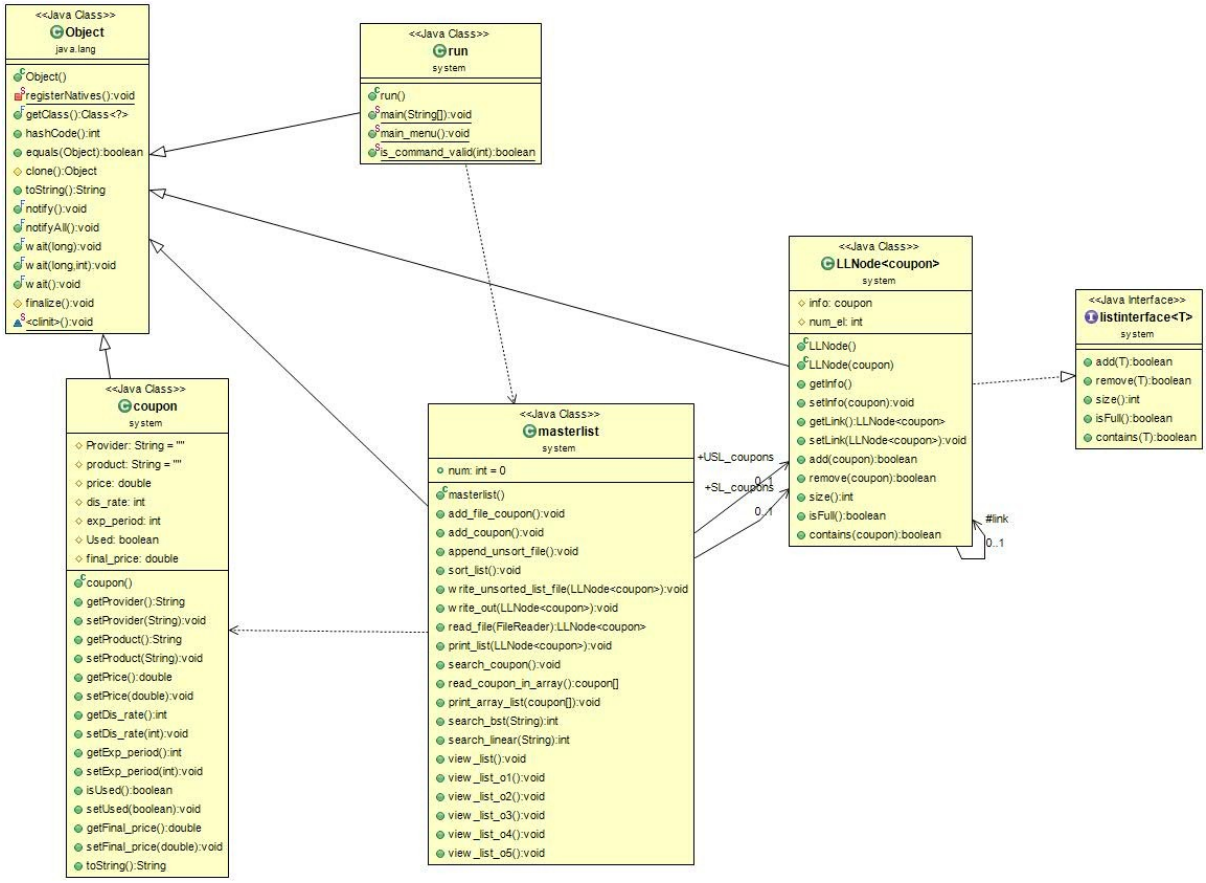
Design Document

UML Diagram



The UML for the project is given above.

With the view on high level design, there is a class consisting all the fields of **coupon** providers, products, price, discount rate, expiration rate, status and final price of the coupon. The class also implements getters and setters method.

Each coupon is added to a list based on the implementation of Linked List. The **LLNode** class implements objects of coupon class for storing the coupon. The LLNode implements the **list interface**. The list interface consists of methods for add, remove and other operations that are required for maintaining an updated list.

Turning into the functionality of the project, the **masterlist** class consists of all the methods required for the functioning of the project. The add methods reads input from the file and add it to the unsorted list. This unsorted list also appends the coupons added manually to the system. The unsorted list is sorted using a sort method based on the product parameter in the coupon class. The search method used both linear and binary search algorithms to find the coupon entered by the user. To view the list of coupons, the view method sorts the unsorted list based on the parameter it is given in an ascending order.

To run the system, a **Run** class instantiates all the other classes and integrating the project for efficient functioning.