

Day 7 - Core Java / COLLECTIONS

Topics:

- Collection Interface
- Iterator Interface
- Set Interface
- List Interface
- Map Interface
- List Iterator Interface
- Sorted Set Interface
- Sorted Map Interface
- Unmodifiable Collection
- Synchronized Wrappers
- Thread Safety
- Collections Utility Classes

Assignments:

Assignment #1

Class: *com.kvinod.training.entity.Contact*

```
public class Contact {  
  
    private int id;  
    private String firstname;  
    private String lastname;  
    private Gender gender = Gender.MALE;  
    private String email;  
    private String phone;  
    private String address;  
    private String city = "Bangalore";  
    private String state = "Karnataka";  
    private Integer pincode;  
    private String country = "India";  
    private Date birthDate;  
  
    // constructor/s  
  
    // getters and setters  
  
    // toString  
  
}
```

Interface *com.kvinod.training.dao.ContactsDao*

```
public interface ContactsDao {  
    // CRUD operations  
    public void addContact(Contact contact) throws DaoException;  
    public Contact getContact(int id) throws DaoException;  
    public void updateContact(Contact contact) throws DaoException;  
    public void deleteContact(int id) throws DaoException;  
  
    // Queries  
    public Contact getContactByEmail(String email) throws DaoException;  
    public Contact getContactByPhone(String phone) throws DaoException;  
    public List<Contact> getContactsByLastname(String lastname) throws  
DaoException;  
    public List<Contact> getContactsByCity(String city) throws DaoException;  
    public List<Contact> getContacts() throws DaoException;  
    public List<Contact> getContactsByBirthDate(Date from, Date to) throws  
DaoException;  
}
```

Create an implementation for the above interface that uses collections (ArrayList, TreeSet and HashMap) for storing/manipulating the data. Note that the data will be available only till the time application is running. So, initialize a few contacts in the constructor.

Create a menu driven application using Java to provide the following options:

1. Add new contact
2. List all contacts
3. Search by last name
4. Search by email address
5. Search by phone number
6. Search by city
7. Search by date of birth range
8. Delete contact
9. Edit contact