1) Create Java classes having suitable attributes for Library management system.Use OOPs concepts in your design.Also try to use interfaces and abstract classes.

```
public enum BookStatus
{
  AVAILABLE,
  NOTAVAILABLE
}

public enum AccountStatus{
  ACTIVE,
  CLOSED
 }
```

Person Class

```
  public class Person {
  private String name;
  private String phone;
}
```

Account Class

```
  public abstract class Account
{
  private String id;
  private String password;
  private AccountStatus status;
  private Person person;
}
```

Librarian Class

```
  public class Librarian extends Account {
  public void addBookItem();
  Public void removeBookItem();
}
```

MemberClass

```
  public class Member extends Account
 {
  private int totalBooksIssued;
  public void getTotalBooksIssued();
  public void IssueBooks();
  public void returnBooks();
```

```
  private void checkForFine();
  }
```

BookIssue Class

```
  public  class BookIssue {
  private String memberId;
  public static getIssueDetails();
 }
```

Fine Class

```
  public class Fine
{
  private String creationDate;
  private String bookname;
  private String memberId;

  public static void collectFine()
}
```

Book Class

```
public abstract class Book {

  private String title;
  private String subject;
  private String publisher;

}

public class Books extends Book {
  private float price;
  private BookStatus status;
   public void checkout(String memberId);
   }
```

3) WAP to produce NoClassDefFoundError and ClassNotFoundException exception.

ClassNotFound

```
public class Que3
{
        public static void f()
        {
```

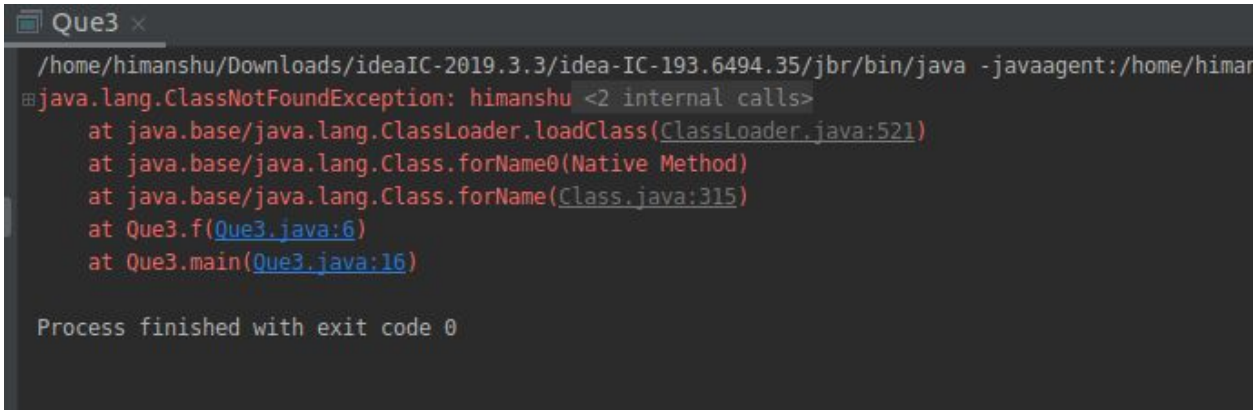
```
        try {
        Class.forName("himanshu");
        }catch(ClassNotFoundException e)
        {
        e.printStackTrace();
        }

        }

        public static void main(String[] args) {

        f();
        }
}
```

Output:



NoClassDefFoundError

.class file of Classdef is removed so it gives NoClassDefFoundError

```
public class Que3_1
{
        public static void main(String[] args)
        {

        Classdef classdef = new Classdef();
        }
```

```
}
 public class Classdef
{

}
```

Output: