

Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam – 603 110
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Department of Computer Science & Engineering

UCS1313 – Object Oriented Programming Using Java Lab

Exercise – 5 – Exception handling

Objective:

1. To test the working of exception handling mechanism in Java

Sample Learning Outcome:

1. Need of exception handling and it's implementation in Java
2. User defined exception creation and usage
3. Usage of try, catch, finally, throw, throws

Best Practices:

1. Class Diagram usage
2. Naming convention – for file names, variables
3. Comment usage at proper places
4. Prompt messages during reading input and displaying output
5. Incremental program development
6. Modularity
7. All possible test cases in output

1. Create a class named “Person” which consists of name, age, aadhar number. Create methods getInput(), display(), canVote(), hasAadhar(). Create and handle the following Exceptions.
 - a. For age -> if you give alphabets then throw NumberFormatException (Check for the condition explicitly and throw builtin exception)
 - b. For voting -> if age is less than 18 then throw MinorCitizenException (Check for the condition explicitly and throw user-defined exception)
 - c. For aadhar -> if no valid aadhar then throw NullPointerException (Check for the condition explicitly and throw builtin exception)

2. Create a class named “Account” which contains name, acct_num, branch, balance, PAN_num. Create functions for deposit and withdrawal. Write user-defined exceptions for the following conditions:
 - a. In deposit function, if the customer deposits money more than 25000, then throw the user defined exception “PANRequiredException” and get the PAN number and proceed the deposit.
 - b. In withdrawal function, if the customer requesting some money, check on withdrawal will it satisfy the minimum_bal amount and throw the “MinBalRequiredException” exception. If the withdrawal amount is more than the balance amount then throw “NotEnoughMoneyInAccountException”.
 - c. Search for a particular acct_num. If not present then throw “AccountNotFoundException”.
 - d. On PAN number entry check the format of 10 characters. First 5 characters then 4 numbers and then 1 character. If the format not matched then throw “PANFormatMismatchException”.