|  |  |
| --- | --- |
| PU1 | Count the Number of files available in a directory. |
| pre-requisite | File Operations, Control statements, Exception handling |
| Use case description | The Pharmacy company wants to develop the application. It needs to find the total number of flies available in a specific folder like the medicine folder, employees' folder, etc. The company also wants the number of files specific to each type. Design an application to count the number of files in one directory and the number of files with a specific extension.  Report exception if the user does not mention the proper directory name or complete path of a directory |
| Assignment | Allow the user to enter specific folder name / path of the folder.   1. Categories number of files according to instruction 2. Find the total number of files sent together in that directory. |
| Testcases1 | **Input:**  Enter folder name/ path of the folder: f:/abc  **Output:**  Number of files in each file extension  .txt files : 1  .csv files : 1  .xls file : 2  Total no of files in directory abc is : 4  **Input:**  Abc.txt  **Output:**  Invalid Folder name |
| covered topics | File Operations, Control statements, Exception handling, Strings, Regular expressions. |

|  |  |
| --- | --- |
| PU2 | Find the Size of the file in Server. |
| pre-requisite | *Control Statements, ,Strings, Methods, Exception Handling* |
| Use case description | "Karun Technology’ is a Software company which maintains server to store all his company project details and files but the server capacity is only 500TB, because of that whenever he wants to store the files into that server, he needs to check the server capacity whether file size is lesser than the available size or not on the server. |
| Assignment | Write a piece code to check the size of the file before storing on the server and following operations will be perform   1. Find the size of the file in the Bytes 2. Find the size of the file in the Kilo Bytes 3. Find the size of the file in the Mega Bytes 4. Compare the file size and available size on server to store the file |
| *Testcases1* | ***Input:***  *File Name: xyz.docx*  ***Output:***  *Size of the file:*  *In Giga Bytes: 1 GB*  *In Mega Bytes: 1024 MB*  *In Kilobytes:1,048,576KB*  *In Bytes:1073741824 Bytes* |
| *covered topics* | *Control Statements, ,Strings, Methods, Exception Handling* |

|  |  |
| --- | --- |
| PU3 | Find the Length of the Message |
| pre-requisite | *Control Statements, Strings, Methods, Exception Handling* |
| Use case description | “United SMScompany” provides SMS services. SMS limit should be 160 characters only, so customers can send SMS with in this limit only. |
| Assignment | Find the length and size of the givenSMS and implement the following operations:   1. Find the length of the characters in SMS   2.Compare the SMS length with SMS limit |
| Testcases1 | **Input:**  SMS:Welcome to bitLabs  **Output:**  Length of the SMS: 18  Length of SMS is lesser than the limit ,  SMS sent successfully |
| Testcases2 | **Input:**  Message : Welcome to bitLabsUnited SMS company” provides SMS services. SMS limit should be 160 characters only, so customers can send SMS with in this limit only.  **Output:**  Length of the SMS: 170  Length of SMS is exceeds the limit  Sorry SMS sent failed |
| *covered topics* | *Control Statements, Strings, Methods, Exception Handling* |
|  | |

|  |  |
| --- | --- |
| PU4 | Validate file accessibility |
| pre-requisite | Files, Date Package , Control statements , OOPS - Core java |
| Use case description | A company want to send their tender quotation. For security reasons this file will be available to download for specified number of days only. Once the days crossed from the send date, file will not be available to download. Now build a logic to validate the expiry date to download the file. |
| Assignment | Allow the user to enter expiry days and implement the following operations:   1. Create a file and read the file creation date as sent date 2. Calculate the difference between sent date and current date 3. If the different days is less than the expiry date display “File is available to download” 4. Else display file is expired |
| Testcases1 | **Input:**  Enter number of days to expire: 10  file creation date: 25-11-2022  **Output:**  Your file is available to download |
| Testcase2 | **Input:**  Enter number of days to expire: 10  file creation date: 01-11-2022  **Output:**  Your file is expired |
| covered topics | Files, Date Package , Control statements , OOPS - Core java |

|  |  |
| --- | --- |
| PU5 | Finding the Size of a Paqqet |
| pre-requisite | Strings, Files |
| Use case description | When any user wants to send an Paqqet, he/she needs to check the Paqqet size. If the size is below some appropriate size, he/she should be able to sent that Paqqet. |
| Assignment | Write a java program that determines total Paqqet size by reading the number of files along with content and message that needs to be sent with the Paqqet |
| Testcase1 | **Input:**  No.of files to be sent-----3  Enter File Names : abc.txt, bit.txt,xyz.txt  Enter Message: sample message    **Output:**       Paqqet size is 10MB. This Paqqet can be sent. |
| Testcase2 | **Input:**  No.of files to be sent-----4  Enter File Names : abc.txt, bit.txt,kumar.txt,xyz.txt    Enter Message: sample message  **Output:**      Paqqet size is 30MB. This Paqqet cannot be sent as it exceeds the limit. |
| covered topics | Strings, Files |

|  |  |
| --- | --- |
| PU6 | Encryption and Decryption |
| pre-requisite | Files, Strings, Base64 encoding algorithm, AES Algorithm |
| Use case description | So far, we checked the file permissions, once all the validations done on file  Now we need to send the file securely to avoid the activities that seek to compromise digital devices or information.  Hence Sender wants to encrypt the file before sending and also receiver should decrypt the file which he received. |
| Assignment | Can you help sender and receiver to write a piece of code for encrypting and decrypting the file?  1.Write a piece of code to encrypt the file at the sender side  2.Write a piece of code to decrypt the file at the receiver side |
| Testcases1 | **Sender Side:**  **Input:**  India Team will win the Cup  **Output:** SW5kaWEgVGVhbSB3aWxsIHdpbiB0aGUgQ3Vw  **Receiver Side:**  **Input:**  SW5kaWEgVGVhbSB3aWxsIHdpbiB0aGUgQ3Vw  **Output:** India Team will win the Cup |
| covered topics | Files, Strings, Base64 encoding algorithm, AES Algorithm |

|  |  |
| --- | --- |
| PU7 | Generating and authenticating one time auth code. |
| pre-requisite | Strings, collections, control statements, random interface |
| Use case description | When any user receives an email from sender and when he/she is going to download the file or paquet, he/she should be sent an auth code and needs to be matched that with user entered auth code. |
| Assignment | Generate one random auth code and send it user and match the entered auth code by user with the sent one.   1. Send one auth code to user 2. Store the auth code which was sent & also store date and time. 3. Match the date and time and user entered auth code with stored auth code. 4. If it is matching let him download otherwise alert him. |
| Testcases1 | **Input:**  Received auth code by user :ab@#!123 12/08/2022 12:44pm  Entered auth code by user :ab@#!123 12/08/2022 12:49pm  **Output:**  Wait for few sec…. Your file is being downloaded.  **Input:**  Received auth code by user :ab@#!123 12/08/2022 12:44pm  Entered auth code by user :ab@#!dg 13/08/2022 12:44pm  **Output:**  Invalid auth code. Please check once and enter it correctly. |
| covered topics | Strings, collections, control statements, random interface |

|  |  |
| --- | --- |
| PU8 | Delete File |
| pre-requisite | Files, Date Package , Control statements , OOPS - Core java |
| Use case description | A company want to send their tender quotation. For security reasons this file will be available to download for specified number of days only. Once the days crossed from the send date, file will be deleted. Now build a logic to validate the expiry date to download the file. |
| Assignment | Allow the user to enter expiry days and implement the following operations:  1. Create a file and read the file creation date as sent date  2. Calculate the difference between sent date and current date  3.If the different days is less than the expiry date display “File is available to download”  4.Otherwise delete the file |
| Testcases1 | **Input:**  Enter number of days to expire: 10  File creation date: 27-11-2022  **Output:**  Your file is available to download |
| Testcase2 | **Input:**  Enter number of days to expire: 10  File creation date: 01-11-2022  **Output:**  The file is deleted. There is no such file with that filename |
| covered topics | Files, Date Package , Control statements , OOPS - Core java |