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| **Test Case ID** | **Test Case** | **Expected Output/Results** | **Steps Followed** | **Actual Result** | **Result - Pass/Fail** | **Comments** |
| TC001 | noise removal from audio signal using pre-processing | noiseless snoring signal | 1) Open the code  2) Read audio file (.wav format).  3)Run the code. | audio signal with some noise | Fail | noise removal case-1 not working |
| TC002 | noise removal from audio signal using pre-processing | noiseless snoring signal | 1)Open the code  2) Read audio file (.wav format).  3)Run the code. | noiseless snoring signal | Pass | noise removal case-2 working after changes in code by taking different statistical characteristics and features. |
| TC003 | output from pre-processing is further sent to segmentation to remove unwanted signal by finding the period of interest. | noiseless snoring signal better than pre-processing stage | 1)Open the code.  2) Read audio file (.wav format).  3)Run the code. (segmentation) | Signal free from noise completely | Pass | Finding period of interest working |
| TC004 | Removing invalid period by selecting snore events lying between t(min) to t(max) | Removal of invalid period | 1)Open the code.  2)Read audio file (.wav format).  3)Run the code. (segmentation) | Events with specific boundaries (interval) is returned | Pass | Invalid period removal is working |
| TC005 | Check Patient Login with valid Data. | User should Login into the application | 1)Open the mobile App. 2) Enter User-Id 3) Enter Password 4) Click Submit | As Expected, | Pass | login case-1 working |
| TC006 | Check Patient Login with invalid Data. | User should not Login into application | 1)Open the mobile App. 2) Enter User-Id 3) Enter Password 4) Click Submit | As Expected, | Pass | login case-2 working |
| TC007 | snore audio signal of patient with AHI>30 per hour as input | Severe | 1)Open the mobile App  2) Record the audio of patient suffering from severe OSA.  3)Submit. | Severe | Pass | severe OSA case working |
| TC008 | snore audio signal of patient with 5<=AHI<=15 per hour as input. | Mild. | 1)Open the mobile App.  2)Record the audio of patient suffering from mild OSA.  3)Submit. | moderate | Fail | mild OSA case not working. include the extreme limits. |
| TC009 | snore audio signal of patient with 15<AHI<=30 per hour as input. | Moderate. | 1)Open the mobile App  2)Record the audio of patient suffering from moderate OSA.  3)Submit. | Moderate | Pass | moderate OSA case working |
| TC010 | snore audio signal of patient with AHI<5 per hour as input. | Normal. | 1)Open the mobile App.  2)Record the audio of patient not suffering from OSA.  3)Submit. | Normal | Pass | normal OSA case working |
| TC011 | snore audio signal of patient with 5<=AHI<=15 per hour as input. | Mild. | 1)Open the mobile App.  2) Record the audio of patient suffering from mild OSA.  3) Submit. | Mild. | Pass | mild OSA case working after including the extreme limits. |
| TC012 | Analysing how data is distributed | Normality distribution | 1)calculated central tendencies and measures of dispersion  2)measured skewness and kurtosis | Normality distribution | Pass | Most of the data lies between mean+sd and mean-sd.  (Sd- standard deviation)  Skewness is positive, kurtosis <3  Hence data set is appropriate. |
| TC013 | Assumptions of independent variables to fit the model | 1)Linearity  2)No multi collinearity | 1) performed pair plots  2) measured cooks\_dvalues and removed influential points | 1)linearity  2)slight multi collinearity | Pass | s.no, name, sex doesn’t influence the model  apneas count and apneas index tend to show multi collinearity. |
| TC014 | Building model only on significant variables. | 1)Cooks\_dvalues  2)pvalues | 1)Performed influence plot and removed influential and leverage points.  2)considered the variables which have pvalues<0.05 | 1)cooks\_dvalues  2)some pvalues> 0.05 | fail | Need to remove insignificant variables. |
| TC015 | Building model only on significant variables. | 1)Cooks\_dvalues  2)pvalues | 1)Performed influence plot and removed influential and leverage points.  2)considered the variables which have pvalues<0.05 | 1)cooks\_dvalues  2)all pvalues<0.05 | pass | After removing the insignificant variables, the test case passed  Final independent variables considered are apneas count, hypopneas count, BMI, total sleeping time |
| TC016 | Final model summary | 1)Adjusted r-squared value | 1) after building the model into 95% confidence interval, found adjusted r-square value | Adjusted r-square value=0.912 | Pass | All variables included in the model have significance and influence the output variable accurately. |
| TC017 | Prediction model | Accuracy | 1)trained and tested the model | Accuracy=94.2% | Pass | Predicted values are significant and match the actual values perfectly |