GANreproduce Quick Start Guide

Oct. 12, 2018

Program MATLAB (2016a for demonstration)

Type *Package (GANreproduce.m)*

Title *A package for reproducing the results reported in the manuscript entitled: A trio of genes in germinal center B cells mediates the pathogenesis of blood cancers*

Version *1.4*

Date *2018/10/11*

Authors *Wei-Quan Fang and Ming-Jing Hwang*

Maintainer *Wei-Quan Fang < deleapoli@gmail.com >*

Description *In this work, we analyzed lymphoma-related gene expression and clinical data and identified a regulatory motif of germinal center B cell genes.*

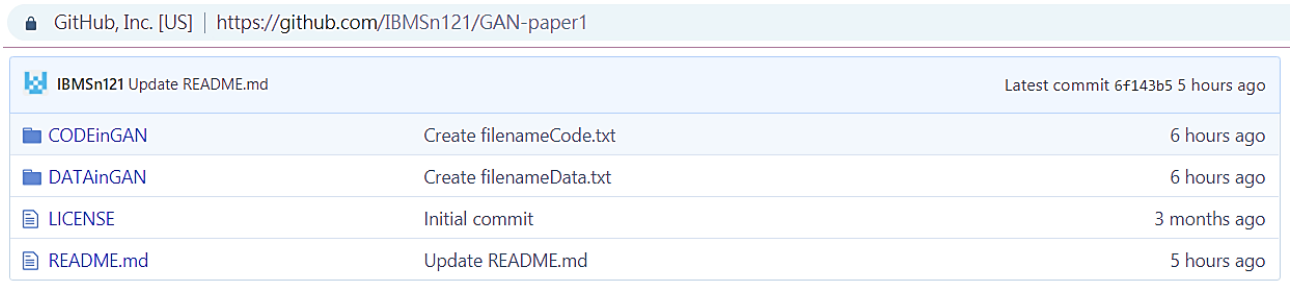
Repository *GITHUB*

Publication *Submitted*

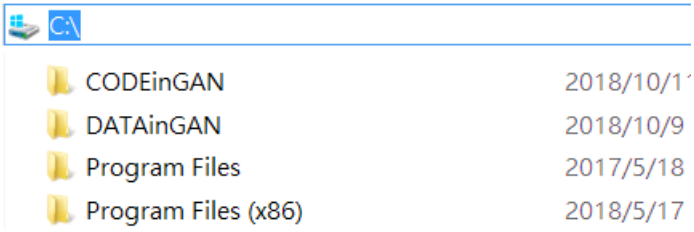
Launch the Package

Three steps are needed to launch the ***GANreproduce*** Package.

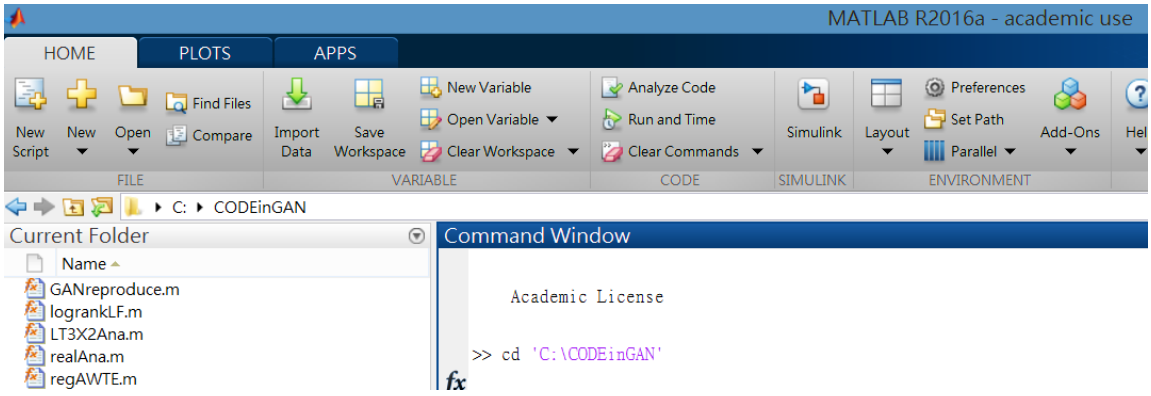
Step1: Download the two files, **DATAinGAN** and **CODEinGAN**, from the web-site https://github.com/IBMSn121/GAN-paper1.



and put them in **C:**

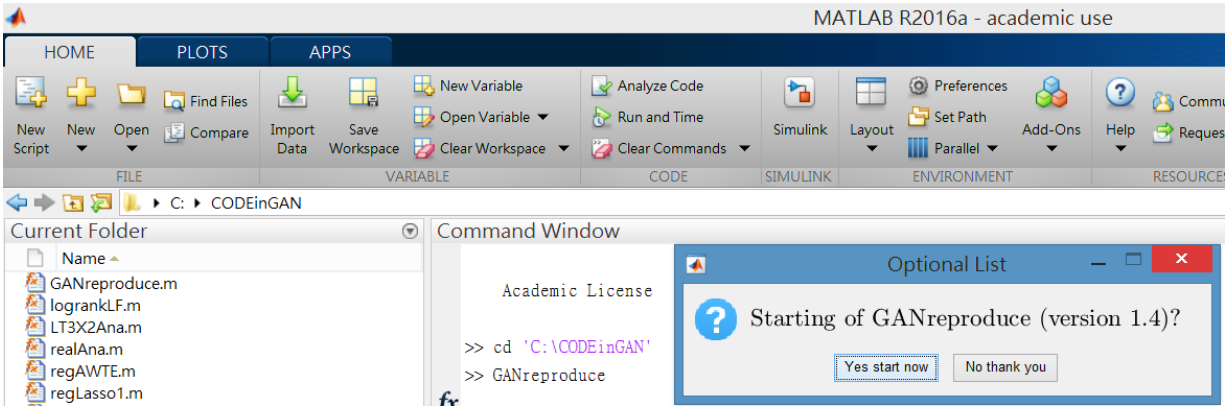


Step2: Open MATLAB program window and type **cd 'C:\CODEinGAN'** in it, then press **ENTER**.



(***Please check*** that GANreproduce Package **GANreproduce.m** can be seen in the MATLAB panel of **Current Folder** after this step)

Step3: Type **GANreproduce** and press **ENTER** to launch the GANreproduce Package and start ***dialog boxes*** for reproducing the results.

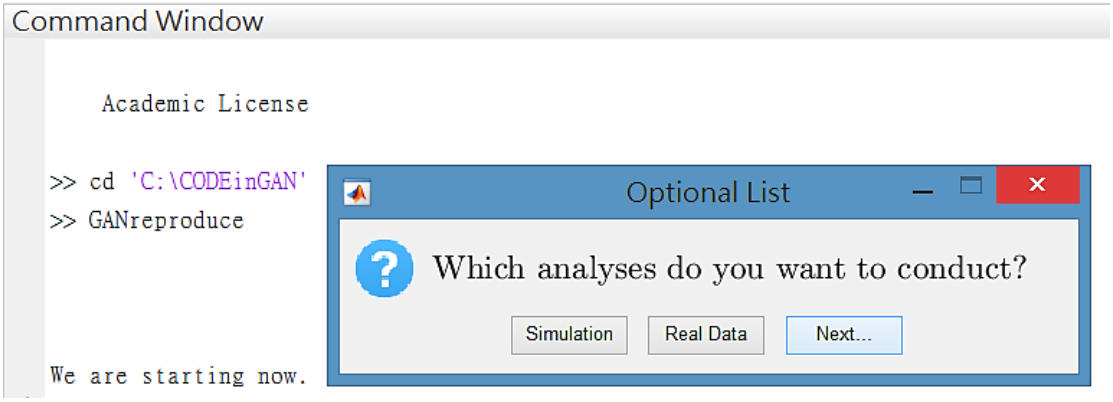


Examples

Three examples, concerning **Real Data Analysis**, **Linear Trend Analysis** and **Clinical Controversy Analysis**, were provided for reproducing the results via GANreproduce Package with selections of ***user friendly dialog boxes***.

Example 1 (Real Data Analysis)

Click **Yes start now** after the launch of the Package, then click **Real Data**.



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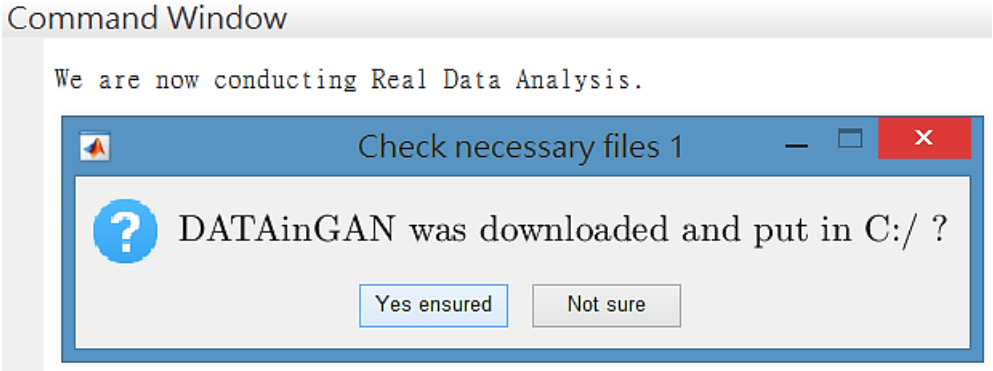
Ensure all the data in DATAinGAN were set up right and click **Yes ensured**.



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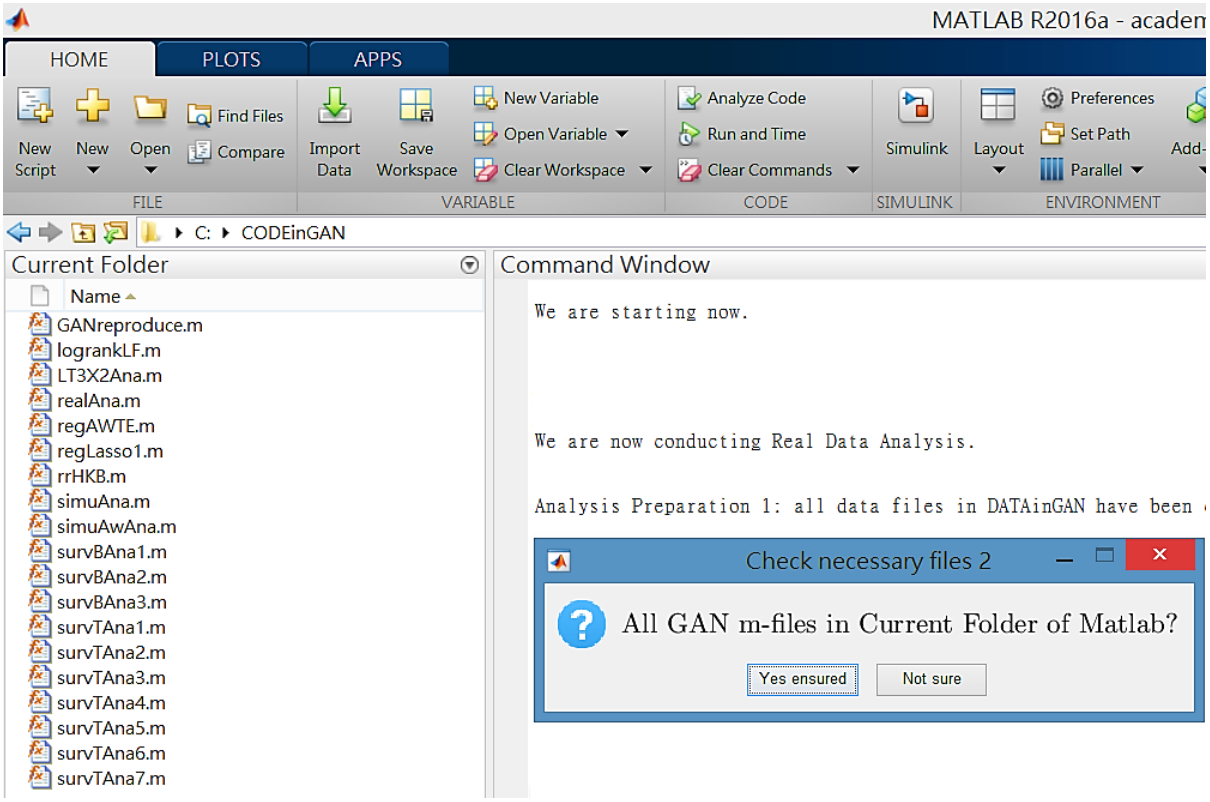
Ensure all the codes in CODEinGAN were set up right and click **Yes ensured**.



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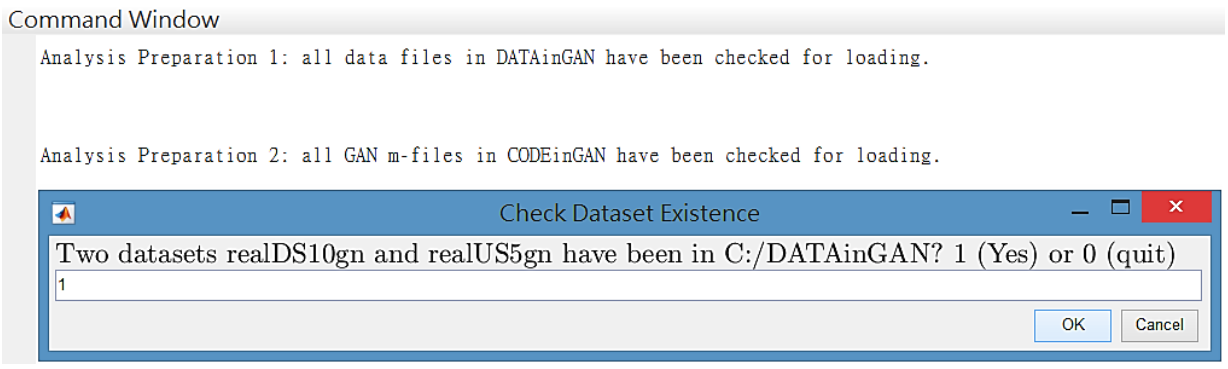
Check the two datasets realDS10gn and realUS5gn used in real data analysis were set up right, then input **1** and click **Ok** to confirm the setting.



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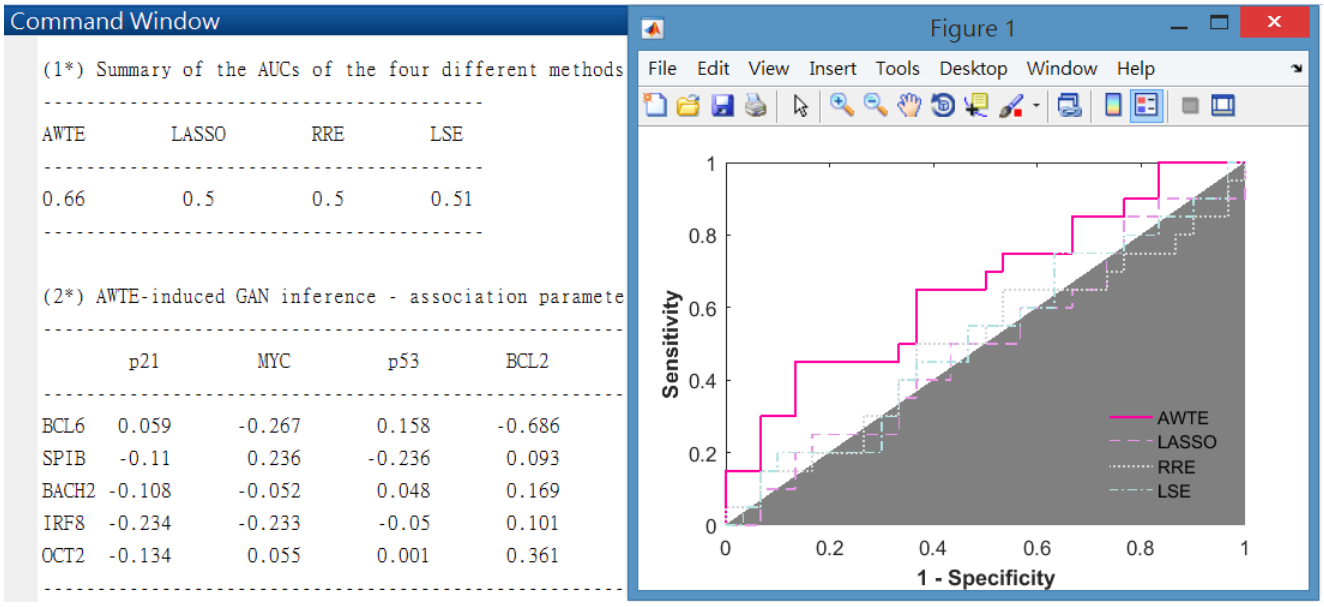
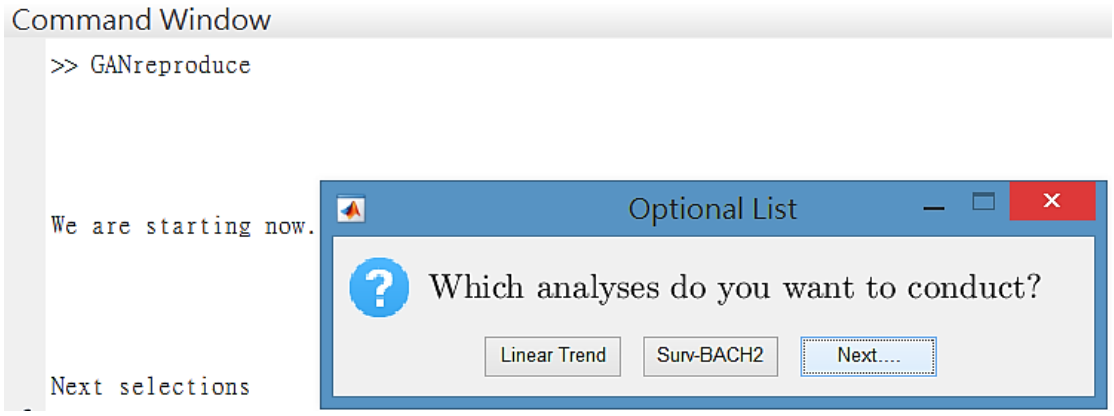
Results for Real Data Analysis were reproduced on the **Figure** and **MATLAB Command Window**.



Example 2 (Linear Trend Analysis)

Click **Yes start now** after the launch of the Package, then click **Next…** and **Linear Trend**.



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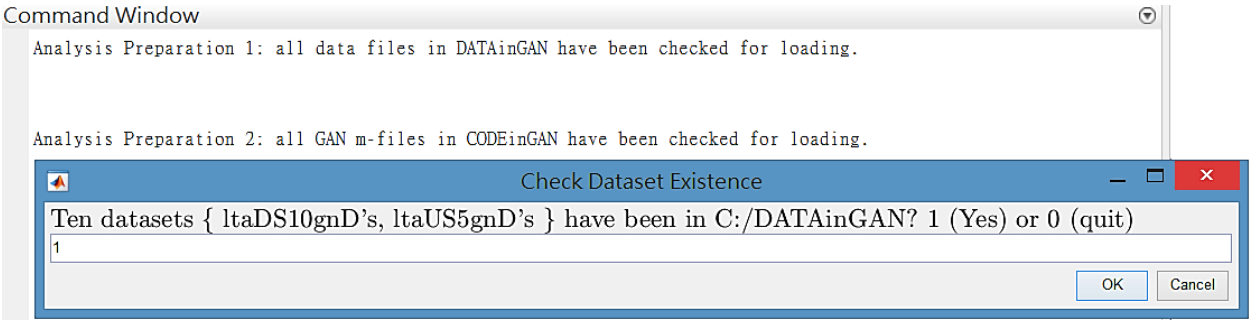
Click **Yes ensured** twice and check the necessary files, datasets and codes, as in Example 1, then input 1 and click **Ok** to confirm the setting.



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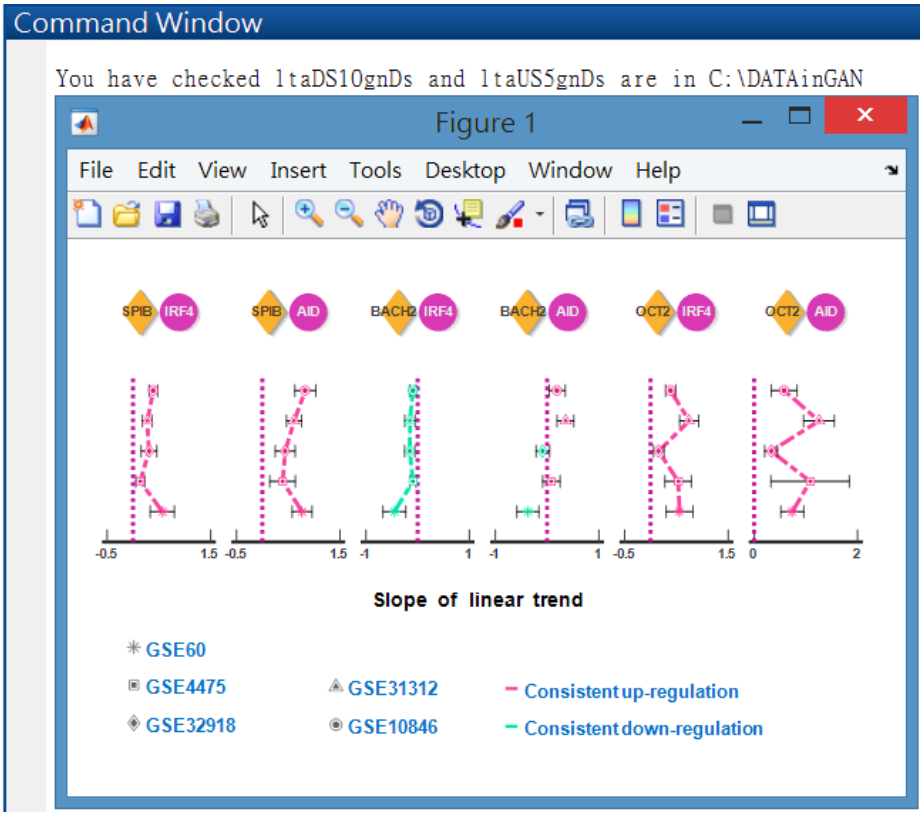
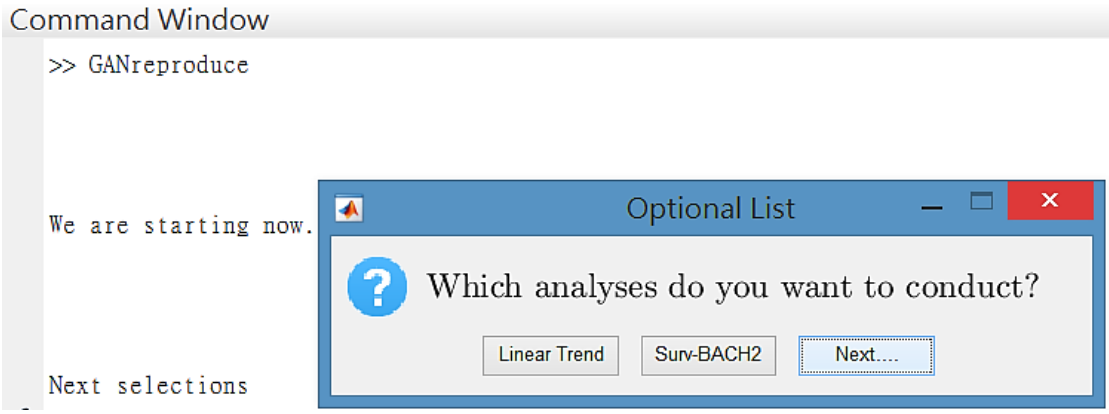
Results for Linear Trend Analysis were reproduced on the **Figure**.



Example 3 (Clinical Controversy Analysis)

Click **Yes start now** after the launch of the Package, then click **Next…** and **Surv-BACH2**.



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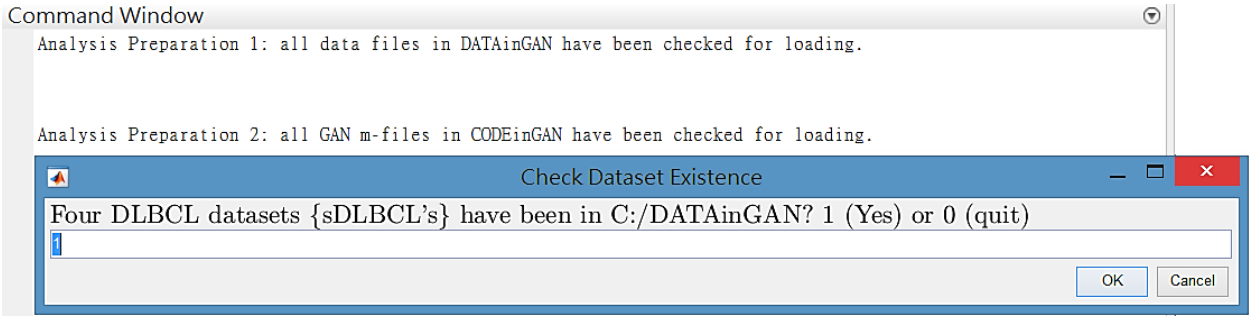
Click **Yes ensured** twice and check the necessary files, datasets and codes, as in Example 1, then input **1** and click **Ok** to confirm the setting.



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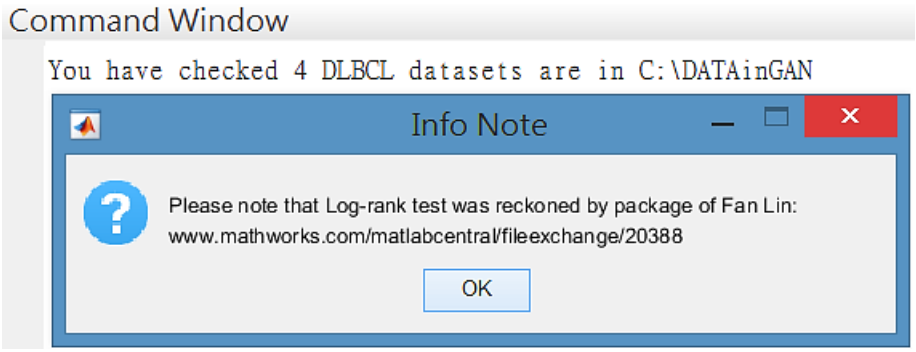
Receive the information on the package used for log-rank statistical testing and click **Ok**.



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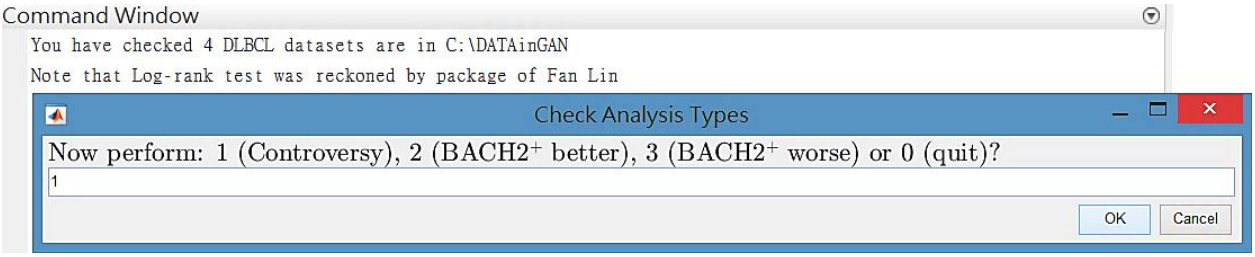
Select analytical type (e.g., Controversy), input **1** and click **Ok**.



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Results for Clinical Controversy Analysis were reproduced as shown below.