**Tasks**

Create an R script that will perform the following:

1. Import two csv files that contains the links and nodes of a network of Facebook users. The files are called **FB\_Links** and **FB\_Nodes**, which you will find in the Assignment 2 section on Moodle. Create an igraph object based on these files using the setting of **T** for the **directed** parameter. DONE
2. Inspect the attributes of the network using the **E** and **V** function and use the **as\_data\_frame** function to describe the nodes and links. Plot the network using the default settings and **describe the main problem with this plot in terms of its readability**. The nodes are too close to each other hence difficult to identify the label of the node, also the arrows are not visible.
3. Plot the network again using the following attributes settings; the colour of the nodes should be blue for male Facebook users and red for female (hint: use the **ifelse** function – see p23 of the **R Studio Student Guide** on Moodle), the node size should be set to value of the friend\_count attribute divided by 70 and the arrow.size attribute should be reset to an appropriate value that improves the clarity of the plot.  
     
   **Describe how the network diagram has been improved and identify the node with the largest friend count by visually inspecting the network**. Previously you could not see the arrows clearly, we could not tell from which sex the nodes belong to, and also we could not compare the nodes based on size. The node with the highest friend count is labelled MWB.
4. Using the **group** attribute, plot a series of networks where each plot contains only Facebook users that belong within a particular group. For example, one plot will display the network containing only Facebook users within group B. You should plot a total of 8 networks for this task - one network plot for each group. **You should adjust the node size to a more appropriate value by dividing the friend\_count value with a smaller number than one used in** task 3. Each plot should be displayed using the layout style of **layout\_with\_fr.**  
     
   By visually inspecting the network plot for group M, identify the largest node (the Facebook user with the highest friend count). **MWB had the highest number of friend count.** By examining the number of links each node has in this plot, would you agree that this user is the most important node in this network? YES, because it has 3 outgoing “to” links and one incoming “from” link.