Capstone Project

Assignment 2

Course code: CSA1643

Course: Data warehousing and data mining for data science

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Slot: C

Title: Social Network Analysis for Detection Influence in data Mining

Release Date: Assignment Preliminary Stage (Assignment 1) submission Date:

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Mentor Phone number and Department: department of industrial mathematics

```r
# Load required libraries
library(igraph)


# Create a sample social network graph
# Replace the sample data with your own dataset
# Example: nodes <- c ("Alice", "Bob", "Charlie", "David")
#          edges <- data. Frame (from=c ("Alice", "Bob", "Bob",
"Charlie"), to=c ("Bob", "Charlie", "David", "David"))
nodes <- c ("Alice", "Bob", "Charlie", "David")
edges <- data. Frame (from=c ("Alice", "Bob", "Bob",
"Charlie"), to=c ("Bob", "Charlie", "David", "David"))


# Create graph object
graph <- graph_from_data_frame (edges, directed=TRUE,
vertices=nodes)


# Plot the graph
plot (graph, layout=layout. Circle, vertex.
Label=V(graph)$name)


# Calculate centrality measures to detect influence
# You can use various centrality measures like degree
centrality, betweenness centrality, closeness centrality, etc.
```

```
degree centrality <- centr_degree (graph, mode="in")

betweenness centrality <- betweenness(graph)

closeness centrality <- closeness(graph)


# Print out the centrality measures

print ("Degree Centrality:")

print (degree centrality)

print ("Betweenness Centrality:")

print (betweenness centrality)

print ("Closeness Centrality:")

print (closeness centrality)
```

output:

	Reference	
Prédiction	Fraudent	Non-Fraudent
Fraudent	TP	FP
Non-Fraudent	FN	TN