 

BSc (Hons) in Computing

**Programming Data Structures and Algorithms**

Course Work

Group Assignment

Faculty of Engineering, Environment, and Computing

Coventry University

School of Computing

National Institute of Business Management

**School of Computing**

**National Institute of Business Management**

**Module ID**: NIB209CR

**Module Name**: Programming Data Structures and Algorithms

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# Source Code

## Source Code Path

Path:

# Database

## Database Details

Database is designed using JSON file in java package for the game assignment.

### Fsfsgfwetwt

# Report

## Chapter 1 - Eight Queen Puzzle

Eight Queen Puzzle is used to identify the

### Program Logic used to Identify maximum number of solutions for Eight queen puzzle

### UI screenshot allowing game players to provide answers

### UI screenshots when game players to provide correct answer & incorrect answers

### Code Segment: When a game player correctly identifies an answer, save that person's name along with the correct response in the database

### Code Segment: If another game player provides the same right response, indicate that the solution has already been recognized

### Code Segment: When all the solutions have been identified by game players, the system should clear the flag that indicate solution has already been recognized

### UI screenshots when game players to provide correct answer & incorrect answers

### Indicate the Data Structures used with its purpose

### Specify using Code Segments or Screenshots the Validations and Exception Handling in this application

### Screenshot of the Normalized DB Table Structure used for this Game Option

### Code Segment: unit Testing

## Chapter 2 - Encode /Decode using Huffman

Program Logic used to implement Encode /Decode using Huffman Coding Algorithm

UI screenshot allowing game players to provide answers

Code Segment: for Option 1

Code Segment: for Option 2

UI screenshots when game players to provide correct answer & incorrect answers

Indicate the Data Structures used with its purpose

Specify using Code Segments or Screenshots the Validations and Exception Handling in this application.

Screenshot of the Normalized DB Table Structure used for this Game Option

Code Segment: unit Testing

## Chapter 3 - Tic-Tac-Toe

Program Logic used to implement Tic-Tac-Toe

UI screenshot allowing game players to provide answers

Code Segment: Determining the optimal Tic-Tac-Toe move for a computer player using the Minimax Algorithm in Game Theory

Screenshots of the user interface when players win, lose, or draw a game

Indicate the Data Structures used with its purpose

Specify using Code Segments or Screenshots the Validations and Exception Handling in this application.

Screenshot of the Normalized DB Table Structure used for this Game Option

Code Segment: unit Testing

## Chapter 4 - Identify Shortest Path

Program Logic used to implement Identify Shortest Path

Code Segment used to set random distance

UI screenshot allowing game players to provide answers

Code Segment: find the shortest path and distance for other cities from the system's randomly selected city

Code Segment used to save person's name along with the correct answer

Code Segment used to save distance between cities when they correctly identify an answer

UI screenshots when game players to provide correct answer & incorrect answers

Indicate the Data Structures used with its purpose

Specify using Code Segments or Screenshots the Validations and Exception Handling in this game option.

Screenshot of the Normalized DB Table Structure used for this Game Option

Code Segment: unit Testing

## Chapter 5 - Identify minimum connecters

Program Logic used to Identify minimum connecters

Code Segment used to set random distance

UI screenshots when game players to provide correct answer & incorrect answers

Code Segment used to save person's name along with the correct answer

Code Segment used to save distance between cities when they correctly identify an answer

Indicate the Data Structures used with its purpose

Specify using Code Segments or Screenshots the Validations and Exception Handling in this game option.

Screenshot of the Normalized DB Table Structure used for this Game Option

Code Segment: unit Testing

# Presentation