1. PROJECT DETAILS

- Abdur Raheem has been tasked with a combinatorial number-placement puzzle. It is a 16x16 grid such that each column, each row and each 4x4 sub grids contain exactly one instance of the digits from 1 to 16. He needs to design a computer program to perform the following functions:

  - Given an empty grid, he should be able to generate a partially filled grid for users to play the game. Once users fill the grid, the program should be able to verify the correctness of the solution. Note that while generating and checking it, the above rule needs to kept in consideration.

  - Given a partially filled grid, his program should be able to fill in the grid to satisfy the above rule.

  - This is an **exploratory project**. You are free to refer to any online/offline resources as long as you don't plagiarise and refer to your sources.

2. INSTRUCTIONS

- Your **MUST** try your best to make use of **ALL** C++ components covered in the class.

- Your code must be clearly written with comments.

- Your group should ideally consist of 4 members. Any exceptions under special circumstances need approval. The group project members list attached to this document will be updated accordingly.

- Name, Matric number & Section of group members should be included in the comments of the program file/s, in the beginning.

- This project doesn't involve any report writing. Any details, if required should be included in the program file/s as comments.

- All group members **MUST** contribute to the project and hence be able to explain any part of the project, as required.

- You have to present your project in the class, explaining the working of your program, step by step.

- All group members are required to present. A power point presentation is not required.

- You should prepare multiple sample inputs to demonstrate during the project presentation. Other inputs, if necessary, will be determined by the instructor during the presentation.

- Each group will be given a max of 10 minutes to present the project including the question & answer sesssion.

- Place all relevant files in a folder with the folder naming format as groupleadersfirstname_section (eg: Asif_Sec3) and zip your folder. Group leaders should submit the zipped folder by uploading it to the google classroom.

- All programming files must be submitted as .cpp or .txt.

- **Group Project bears 15% of your Total Course Evaluation.**

3. IMPORTANT DATES:

PROJECT SUBMISSION DEADLINE: **17th Dec 2019, 11: 59 PM**
PRESENTATION: **18th Dec 2019**

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