# HACKATHON PROJECT (GROUP 5 (Participants))

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**Here is the algorithm for the Hackathon Project:**

1. Start

2. Import/install necessary libraries – pandas, docx, docx.shared, termcolor and prettytable.

3. Define a function get\_courses\_by\_day() that takes the CSV file as input and returns a dictionary with days as keys and a list of courses as values.

4. Define a function get\_venues\_by\_capacity() that takes a dictionary of venue names and capacities as input and returns a dictionary of venues sorted by capacity.

5. Read the data from the CSV file into a pandas DataFrame.

6. Sort the DataFrame by day and start time.

7. Call the function get\_courses\_by\_day() to get a dictionary of courses sorted by day.

8. Call the function get\_venues\_by\_capacity() to get a dictionary of venues sorted by capacity.

9. Create a dictionary initial\_venue\_capacity with the initial capacity of the venues.

10. Create an empty dictionary venue\_bookings to keep track of venue booking status for each day.

11. Display a menu for the user to choose whether to add a new venue or proceed without adding one.

12. If the user chooses to add a new venue, prompt them to enter the name and capacity of the venue and update the initial\_venue\_capacity and venue\_bookings dictionaries accordingly.

13. Allocate venues for the courses for each day based on capacity and availability.

a) Loop through the dictionary of courses.

b) For each day, loop through the list of courses and allocate venues with sufficient capacity to the courses.

c) Update the venue\_bookings dictionary with the allocated venues.

d) If insufficient venues are available for a course on a particular day, display a message on the console.

14. Create a new Word document using the docx library.

15. Add a heading and a paragraph to the document.

16. Create a table with headers in the document.

17. Loop through the dictionary of courses and add data rows to the table.

18. Set column widths for the table.

19. Save the document.

20. Create a PrettyTable to display on the console.

21. Add headers and data rows to the PrettyTable.

22. Set table properties.

23. Print the PrettyTable to the console.

24. End.