

# Career Guide with College Predictor

## Team members

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## Introduction

After giving the different entrance exams, students are always in an uncertainty of getting a desired college. So we are demonstrating a college predictor focusing the NEET (Medical entrance) and CET (Engineering entrance) exams in our project.

## Problem Statement

Create a college predictor for NEET and CET exam based on student's rank and category. Take the input of student's rank and category and then display the list of applicable colleges.

## **Motivation**

Engineering and medical are very competitive career these days. To apply for each of them there are different entrance exams like MH-CET and NEET for engineering and medical respectively. Getting a good college is dream of every student preparing for these exams. After lot of efforts and hard work student appear for these entrances. But when the results are out many of them are actually clueless about what to do next. Thus they usually appoint for various counsellors who advises the suitable college for the particular rank of student at a considerably expensive cost. So we are developing a project which could determine all the applicable colleges for a particular rank. On providing rank achieved by the user and other necessary information all the colleges for which the student could apply with the provided rank would be displayed on screen. Thus, these could help saving a lot of money as well as time by the student and also give accurate information of applicable colleges thus acting as a career guide.

## **Methodology**

**Data structure used: Linked list**

## Why linked list?

- ✚ Dynamic data structure: can able grow and shrink at runtime.
- ✚ No wastage of memory: size can increase or decrease at runtime that prevents memory wastage
- ✚ No random access of element: Each and every node is sequentially visited in linked list, so no worry of missing out any node while searching.
- ✚ As we need to store lot of data as the hardcoded values which acted as the colleges available (from which some are shortlisted depending on rank of the student)
- ✚ Other data structures like stack, queue, tree etc. couldn't be used as we can't perform effective searching based on category and rank.

Thus, we found linked list as the suitable data structure for our project.

## Algorithm:

- 1) Take input from user for entrance exam appeared.
- 2) Take input from user for rank secured and category.
- 3) Start searching in the linked list of mentioned category for the mentioned rank.
- 4) If  $\text{rank} < \text{cutoff\_rank}$  of the college, then add the college to the list of applicable college.
- 5) Display the list of applicable college.

## Algorithm Analysis:

Action	Time complexity	Space complexity
Adding a node in linked list	$O(1)$	$O(1)$
Searching a node in linked list	$O(n)$	

## Conclusion:

Thus we create a college predictor for NEET and CET exam based on student's rank and category. Took the input of student's rank and category and then display the list of applicable colleges.

## References

-  <https://www.javatpoint.com>
-  <https://www.geeksforgeeks.org>
-  <https://cetcell.mahacet.org>