College and Scholarship Eligibility Checker

Project Report

Project Domain – Education

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Course – Introduction to Problem Solving and Programming

Course Code – CSE1021

Programming Language – Python

Introduction

Project Title: College and Scholarship Eligibility Checker
Domain: Education Technology
Course: Introduction to Problem Solving and Programming (CSE1021)

Problem Solving

Many students face challenges in identifying suitable colleges and scholarships due to various reasons like

- Lack of centralized information source
- Time consuming manual process
- Missed opportunities due to inadequate information

Project Objective

To develop an automated software solution that helps students quickly determine their eligibility for various colleges and government scholarships based on their academic performance and personal information.

Target Users

-High School students seeking college admissions
-Scholarship applicants from various backgrounds
-Parents assisting their children in career planning

Program Design

Overview

This system follows a simple line of code without using any libraries , API and OOP

Algorithm

Step 1: Start

Step 2: Get name of the user

Step 3: Create a dictionary consisting of various colleges with their minimum requirements written

Step 4: Create another dictionary consisting of various scholarships with their minimum requirements written

Step 5: Performing a while loop of the user interface with options given as

1. Check eligibility for exams
2. Check eligibility for scholarships
3. Exit the program

Until the user exits the program

Step 6: if the input is 1

- Ask the user for inputs of their academic scores and age
- Create a list for later storing the eligible colleges
- Iterate over the dictionary of colleges and match the inputs with the minimum requirement.
- If the scores fulfil the minimum requirement append the colleges in the list else do not.
- Print the list with numbering
- If 0 colleges are in the list print a statement

Step 8: if the input is 2

- Ask the user for inputs of their academic scores , family income , gender and age.
- Create a list for later storing the eligible scholarships
- Iterate over the dictionary and match the criteria for each scholarship

- If the criteria is met for a scholarship append it to the list else do not.
- Print the list with numbering
- If 0 scholarships are added print a statement

Step 9: if the input is 3

Exit the program and print a statement

Step 10: END

Implementation

Programming Concepts Applied

Data Structure

Dictionaries: Used to store college and scholarship criteria in pairs

Lists: Used to collect and display eligible options

Variables: Used to store user input

Control Structures

While loop: Maintains program until user chooses to exit

For Loops: Iterate through dictionaries and list

Conditional statements: Checking eligibility for each college and scholarship

Nested Conditionals: Handle multiple criteria checking

Input and Output

Input() for user data collection

Print() for displaying results

Int() to get integer input

Key Features

College Eligibility Features

Age requirement checking

Academic percentage checking

Entrance exam score evaluation

Scholarship Eligibility Features

Gender specific scholarship handling

Sports achievement handling

Combined criteria evaluation

UI

Simple numbered menu system

Clear input prompts

Numbered result display

Greetings

Testing

College Eligibility Test

Name = Rahul

Age = 18

Class 10th Percentage = 90

Class 12th Percentage = 85

JEE Percentile = 93

Output

Hello Rahul, you are eligible for:

1.NIT

2.State College

3.Delhi University

4.XYZ University

Good luck with your future studies!

Scholarship Eligibility Test

Name = Rahul

Age = 18

Class 10th Percentage = 90

Class 12th Percentage = 85

Annual family income = 300000

Gender = male

Sports level = national

Output

Hello Rahul, you are eligible for these scholarships:

1. Economically Weaker Section

2. Sports Scholarship

Good luck with your future studies!

Improvements

Add more colleges and scholarships
Add detailed rejection details
Include College fee information

Conclusion

This Basic python program effectively showcases the valid output in a simple manner and also has practical utility for users if expanded,

, Thank You

Regards

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