

Cognizant Academy

College Management System

C#, ADO .Net Knock Out Challenge

Version 1.0

	Prepared By / Last Updated By	Reviewed By	Approved By
Name	Gnanasekar R		
Role			
Signature			
Date			

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1.0 Introduction

1.1 Purpose of this document

Crown College Management system maintains the list of college and students count. There should be a provision in the system to delete and retrieve college information from the database. Also calculate fees for the particular college.

Crown College current focus is to automate the below mentioned requirements.

1. Delete the college details by id in the database.
2. Get College Details from the database.
3. Calculate the Fees for the particular College.

1.2 Definitions & Acronyms

Definition / Acronym	Description
Req	Requirement

1.3 Project Overview

This project captures the various concepts, techniques and skills learnt and helps to put them into practice using C# with ADO.NET. Admittedly, this would be at a scaled-down level since the purpose is to let the associate experience the various concepts learned in C# as an individual. The individual associate is expected to create a console-based application within the specified time.

1.4 Scope

The scope of the system is explained through its following modules.

1. Delete the college details from the database.

2. Get college Details based on Id.

3. Calculate the Fees for the particular college.

1.5 Target Audience

Learner Level

1.6 Software Requirement

1.6.1 Software Requirements

#	Item	Specification/Version
1.	C#	6
2.	ADO.NET	4.5
3	ORACLE SERVER	18C

Note: All the required software will be provided in the Tekstac platform.

2.0 Functional Requirements

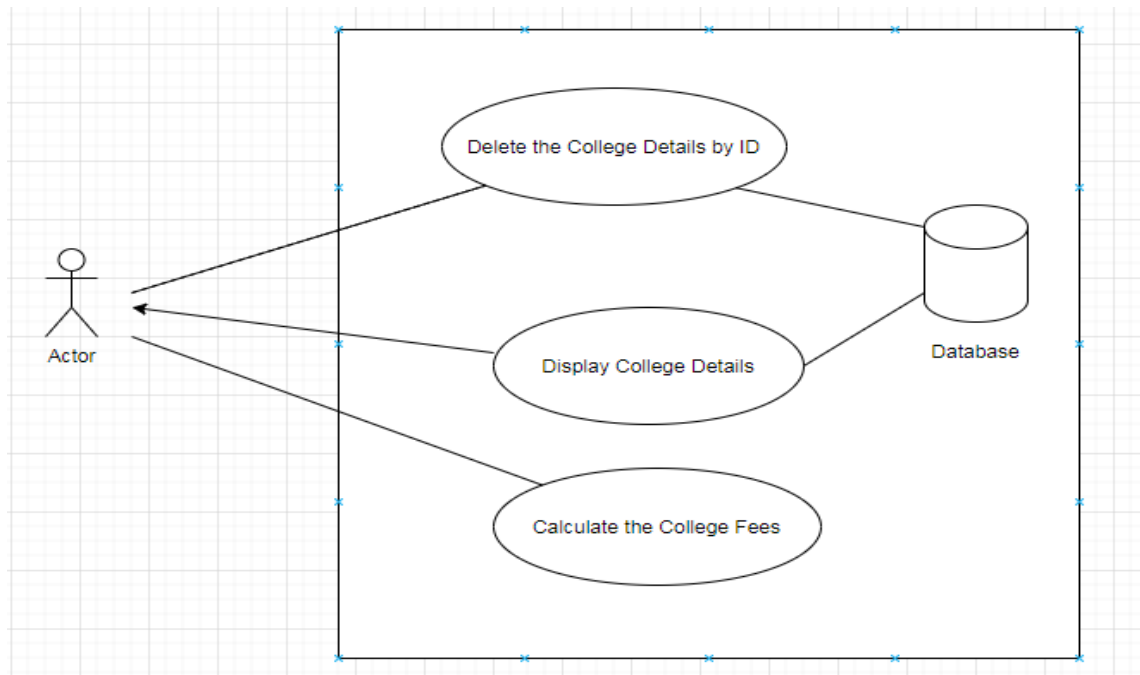
2.1 Functional Requirements

Req. #	1
Req. Name	Delete the College Details from the Database with the given CollegeId from the user.
Req. Description	The CollegeId details are entered through the Main method. Delete the college details from the database.
Actors/ Users	Admin
Comments	The admin is responsible for entering the data .

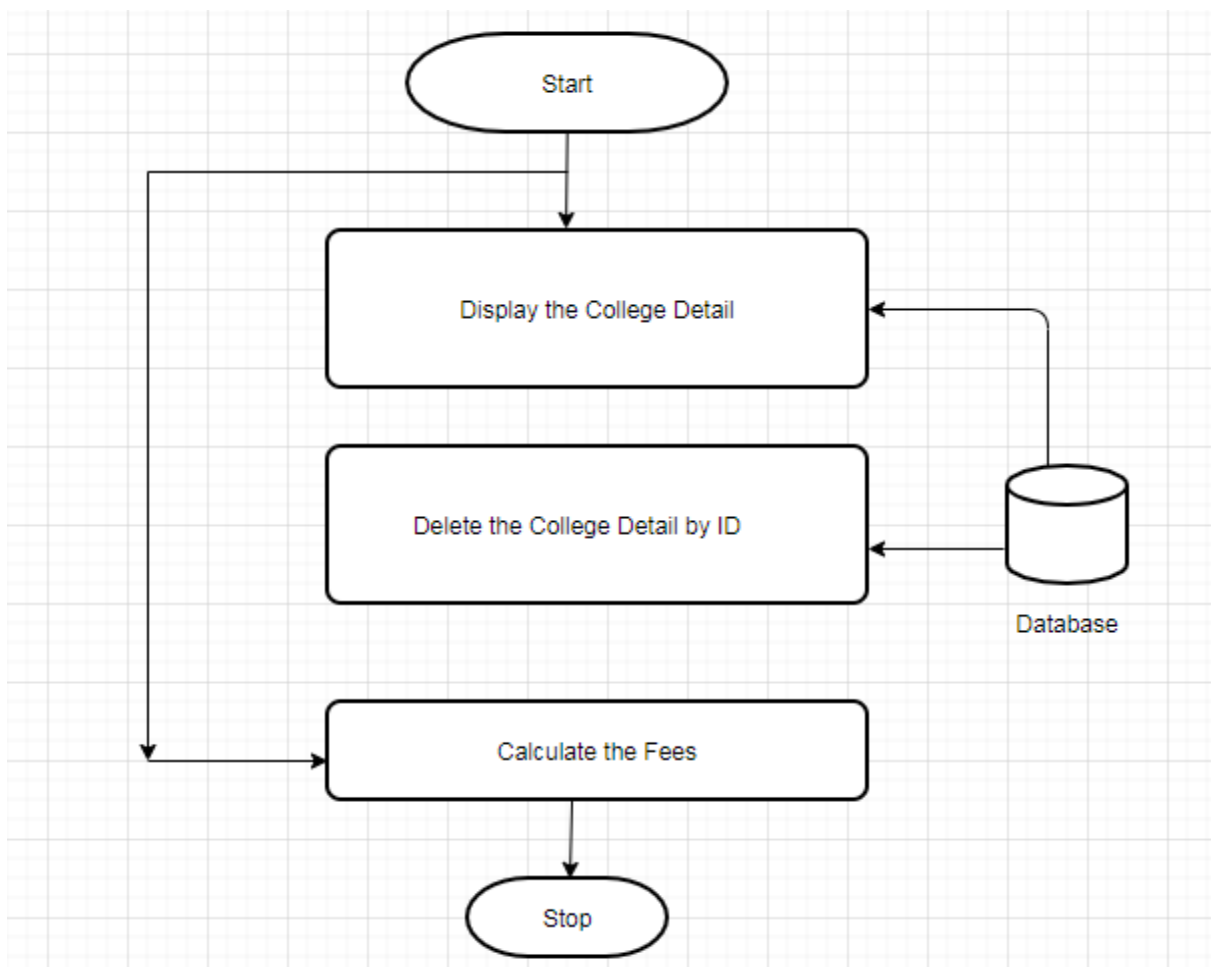
Req. #	2
Req. Name	Get all the College Details by entering the College Id from the user.
Req. Description	The user enter the College Id, and it will Get all the Details from the Database
Actors/ Users	Admin
Comments	The admin is responsible for entering the id

Req. #	3
Req. Name	Calculate Fees
Req. Description	Calculate the College Fees as per the Given college Name and the Department.
Actors/ Users	Users
Comments	User is Responsible for calculating the Fees.

2.2 Use case Diagram



2.3 System Architecture Diagram



2.4 Sample Input/Output

Sample Input 1:

Enter the choice

1. Delete the college id in the database.
2. Get College By Id
3. Calculate the Fees of the College.
4. Exit

Select Your Choice :

1

Enter the Id :

5

Sample Output 1 :

College Information Deleted Successfully

Sample Input 2 :

Enter the choice

1. Delete the college id in the database.
2. Get College By Id
3. Calculate the Fees of the College.
4. Exit

Select Your Choice :

2

Enter the College id

3

Sample Output 2 :

3	NIT	Bangalore	50000
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Sample Input 3 :

Enter the choice

1. Delete the college id in the database.
2. Get College By Id
3. Calculate the Fees of the College.
4. Exit

Select Your Choice :

3

Enter the CollegeName :

PSG

Enter the Department :

ECE

Sample Output 3 :

Calculated Fees Amount for ECE department in 'PSG' College – 45000

Sample Input 4 :

Enter the choice

1. Delete the college id in the database.
2. Get College By Id
3. Calculate the Fees of the College.
4. Exit

4

3.0 Design Specification

3.1 Data Design

Table Structure:

Table name: College	
Column Name	Data type
id	NUMBER
name	VARCHAR2(100)
location	VARCHAR2(50)
studentsCount	NUMBER

Design Constraints:

- Use **ORACLE SERVER** database to store the data. The database name is “College”. **This is already created for you in Tekstac.**
- The table names and the column names should be the same as specified in the table structure.
- Connection string is given in **DBConnection.cs**, Should use the '**connStr**' static variable for DB connections, which is also provided as part of code skeleton. THIS IS GIVEN ONLY FOR YOUR REFERENCE. You need NOT change this.

Sample Data is Already inserted in the College table.

id	name	location	StudentsCount
1	PSG	Coimbatore	30000
2	COE	Chennai	80000
3	NIT	Bangalore	50000
4	COE	Bangalore	40000
5	NIT	Trichy	20000

Note: The code skeleton will be available in the Tekstac platform

3.2 Component Details for identified Use Cases

3.2.1 Get data and delete from the database

In the 'Main' get the following value

Id

3.2.2 Get College Details By College ID

In the 'Main' get the following value,

Id

3.2.3 Calculate the College Fees

Calculate the College Fees Based on the CollegeName and Department..Get the CollegeName and Department From the user in 'Main' as shown in the sample input/output.

For sample input/output, refer section 2.4.

Calculate the College Fees based on the below condition:

Calculating Fees Amount

Fees = Tuition Fees + Hostel Fees

Department Can Either be ECE or CSE or

MECH College Names are PSG , COE and NIT.

1. PSG : – ECE - Tuition Fees – 25000

CSE - Tuition Fees – 30000

MECH - Tuition Fees –

35000 Hostel Fees – 20000

2. COE : – ECE - Tuition Fees – 28500

CSE - Tuition Fees – 35600

MECH - Tuition Fees –

23450 Hostel Fees – 18500

3. NIT : – ECE - Tuition Fees – 45500

CSE - Tuition Fees – 43000

MECH - Tuition Fees –

55000 Hostel Fees – 35000

3.3 Component Specification

Class Name : College

Create a Class **College** with the following public Properties.

Data Type	Variable Name
int	Id
String	Name
String	Location
int	StudentsCount

Note: Keep all the properties '**public**'.

Create **Default** and **Parameterized** Constructor

Class Name : CollegeUtility (utility class)

Create a Class **CollegeUtility** to use the below methods and functions:

3.3.1 DeleteCollegeById Method

Type(Class)	Method	Responsibilities
CollegeUtility	public bool DeleteCollegeById(int id)	This method is used to Delete the College Based on the corresponding College ID. If true return College Information DeletedSuccessfully Else if false return College Information Deletion Failed

3.3.2 GetCollegeById Method

Type(Class)	Method	Responsibilities
CollegeUtility	public College GetCollegeById(int id)	This method is used to get the college details from the college table based on the id passed as parameter. The college details are added to College object and return the College Object.

3.3.3 CalculateFees Method

Type(Class)	Method	Responsibilities
CollegeUtility	public int CalculateFees(String collegeName,String department)	This method is used to calculate the college fees based on the given college Name and department.

Class Name : DBHandler(DAO class)

3.3.4GetConnection Method

Responsibility:

This method should connect to the database by reading the database details from the **DBConnection.cs** file and it should return the connection object.

Type(Class)	Method	Resources
DBHandler	OracleConnection GetConnection()	DBConnection.cs file contains the database connection details.

3.4 General Design Constraints

1. The properties/method/class name should be correctly specified as given in the document.
2. Keep all the classes as '**public**'
3. Do not change the DBConnection.cs file.
4. Do not change the namespace name.

4.0 Submission

4.1 Code submission instructions

1. Do not change the code skeleton given, as your code will be auto evaluated.
2. Your last submitted solution will be considered for detailed evaluation.
3. Make sure to submit the solution before the time limit. After the assessment duration you will not be allowed to submit the solution.

5.0 Change Log

	Changes Made			
V1.0.0	Initial baseline created on <dd-Mon-yy> by <Name of Author>			
Vx.y.z	<Please refer the configuration control tool / change item status form if the details of changes are maintained separately. If not, the template given below needs to be followed>			
	Section No.	Changed By	Effective Date	Changes Effected

6.0 Evaluation Areas

S.No	Description
1.	Declaration of properties and methods in the class College and CollegeUtility.
2.	Declaration of methods in the class DBHandler
3.	Implementation to create a valid database connection object
4.	Implementation to DeleteCollege details from database
5.	Implementation to display College Details by Id from the database.
6.	Calculation of College Fees By College Name and Department.

