

WELCOME



**MAHARASHTRA STATE BOARD OF TECHNICAL
EDUCATION, MUMBAI.**

GOVERNMENT POLYTECHNIC KARAD

ACADEMIC YEAR 2022-2023

PROGRAM- COMPUTER ENGINEERING

COURSE- Object Oriented Programming in C++ (22316)

SEMESTER- CO3I

A Micro Project Report On

“STUDENT REPORT CARD SYSTEM”

Under The Guidance Of

Ms . S.V. Jadhav

CERTIFICATE

This is to certify that,

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Have successfully completed microproject on “**Student Report Card System**” Of the subject “Object Oriented Programming In C++ (22316)” prescribed by Maharashtra state board of technical education for Third semester [Computer] during the year 2022-23.

Prof. Patil. S. B.
Head of the department.

Miss. Jadhav. S.V
(Project Guide)

ACKNOWLEDGEMENT

We take it is an opportunity to thank all those who have directly and indirectly inspired, directed and assisted us towards successful completion of this microproject report.

We express our sincere thanks to the principal **Dr. R. K. Patil** for lecture allowed to submit this report as part of our academic learning our sincere thanks to **Ms. S. V. Jadhav**.

In “**Object oriented programming in C++**” department of COMPUTER ENGINEERING, Government Polytechnic karad for this encouragement throughout this project report and guideline in designing and working out this project.

We are also grateful to learn of “Object Oriented Programming In C++ (22316)” for their highly encouraging and co-operative attitude. We express our sense of gratitude towards our friend and parents for their constant moral support during microproject report.

Place: Government polytechnic karad

Date:

Yours Sincerely,

1251-Pratik Pramod Shejwal
1261-Riya Sunil Kharade
1263-Purva Murlidhar Jadhav
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MICROPROJECT REPORT

TITLE:-

“STUDENT REPORT CARD SYSTEM”

0.1 RATIONALE :-

Student report card system project in C++ is a simple console application built without the use of graphics. In this project, users can perform typical report card related functions like adding a new student record and displaying, modifying, editing and deleting it. File handling has been effectively used to perform all these. This project will teach you how to use file handling in C++, add, read, display, search, modify and delete record from file.

0.2 AIMS/BENEFITS OF THE MICRO-PROJECT :-

- 0.1 To develop a program logic.
- 0.2 To learn how to create a class and their function argument.
- 0.3 To develop a complete program and execute that program.
- 0.4 To get a chance to improve your C++ skills.

0.3 COURSE OUTCOMES :-

- a. Develop C++ programs to solve problem using Procedure Oriented Approach.
- b. Develop C++ programs using classes and objects.
- c. Implement Inheritance in C++ program.
- d. Use Polymorphism in C++ Program
- e. Develop C++ programs to perform file operations.

0.4 LITERATURE REVIEW :-

Student Report Card System written in C++ that provides various facilities like reading from a file, add, sort, modify, remove, and print a student report card that is easy to operate. Utilized intermediate C++ concepts like data structures and file handling for reading and writing a student report card. A student report card system is a program that enables users to easily store and find student information, such as name, marks, percentage. This student report card system can be used to create, view, edit, search and delete student report data. All added and edited records are saved in a file. We collect information with the help of following links:

<https://www.geeksforgeeks.org>

0.5 ACTUAL METHODOLOGY FOLLOWED :-

- First, we decide the title of our microproject.
 - We select “Student Report Card System”.
 - Then we discussed on the topic.
 - After selection of topic we made proposal.
 - Then we distribute work with our team members.
 - After distribution, group members started to search on their points.
 - We collect information from internet and we also Used reference books.
- After successful analysis we will commit our final analytics report along with presentation.

0.6 ACTUAL RESOURCES USED :-

Sr.No	Resources used	Specifications	Quantity
1	Computer system	HP Pavilion, i5 11 th Gen, 8gb RAM.	1
2	Software	Version-Turbo C++ 3.7.8.9	1
3	Microsoft Office	Ms office-2019	-

0.7 INTRODUCTION :-

➤ Short History of C++ :

C++ which is an Object oriented programming language was developed at A Bell laboratory by Bjarne Stroustrup .
Earlier this was called C with classes but later is renamed as c++.
It follows bottom-up approach.
It is used to model real world problem.

➤ Feature of OOP :

•Class:

- I. A class in C++ is the building block, that leads to object-oriented Programming.
- II. Class is a user defined data type, which holds its own data members and associated member functions, which can be accessed and used by creating an instance of that class.

III. Syntax-

```
class Class_name
{
    Access specifier:
        // can be Private, public Or protected
    Data members ;
        // variables To be used.
    Member functions ()
        //methods to access data it of Members
    {
        // body of the function.
    }
}; //class ends with Semicolon.
```

IV. Member functions in classes :

There are 3 ways to define a member function:

1. Inside class definition :

Syntax:

```
Class Class_name
{
    //Other members declaration return type function name ( list of parameters).
    {
        //Body of function
    }
    //Other members declaration
};
```


2. Outside class definition :

Syntax :

```
Returntype classname:: functionname(list of parameters)
{
    //Body of function
}
```

- Object :

I. An object is an instance of a class when a class is defined ,no memory is allocated .

II. Declaring objects :When a class is defined only the specification for the object is defined; no memory or storage is allocated .To use the data and access functions defined in the class ,you need to create objects.

-Syntax:

Classname objectname;

-Example:

student std;

- Data abstraction :

1)Data abstraction is like defining or abstracting the object according to required parameters.

2)It refers to providing only essential information to the outside and hiding their background details i.e to represent the needed information program without presenting the details.

3) Abstraction is achieved by classes in program we implement a class with private and public members then it is an example of data abstraction.

- Data encapsulation :

1)Encapsulation is an object oriented programming concept that binds together data and functions that manipulates the data and that keeps both safe from from outside interface and missuse.

2)The data of an object is hidden from other objects . This is called encapsulation.

3) Encapsulation is achieved by putting data and functions associated with it into a class.

4) Data encapsulation lead to important concept of OOP or data hiding.

- Polymorphism :

1)Polymorphism means “many forms “ , and it occurs when we have many classes that are relatrd to each other by inheritance.

2) Here poly refers to “multiple “ and morphs refers to multiple forms of same thing.

3) There are two types of polymorphism –

a.Static binding

b.Dynamic binding

- Inheritance:

The mechanism of deriving a class from another class is known as inheritance.

1)Child class :

A class that inherits another class is known as child class , it is also known as derived class or subclass.

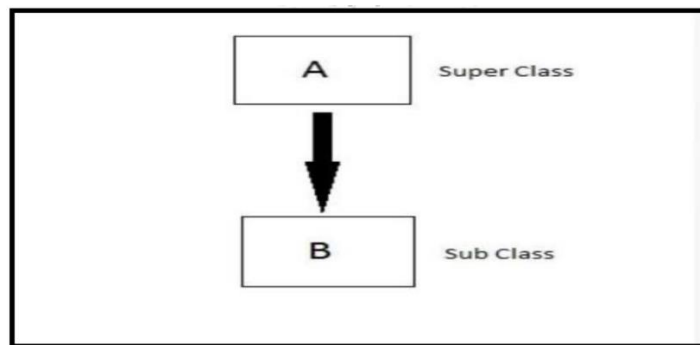
2) Parent class :

The class that is being inherited by other class is known as parent class , or base class.

- Types of inheritance :

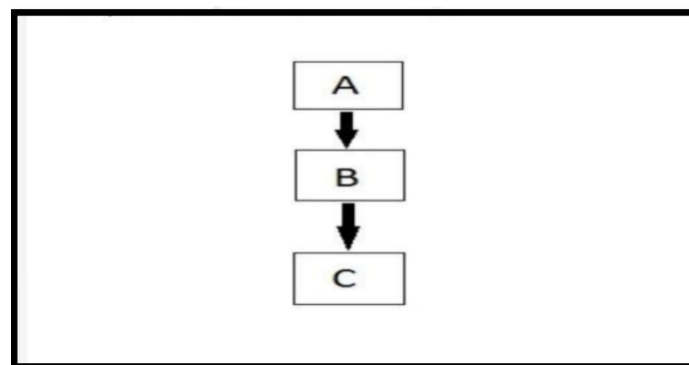
1) Single inheritance :

In this type of inheritance one derived class inherits from only one base class. It is the most simplest form of inheritance.



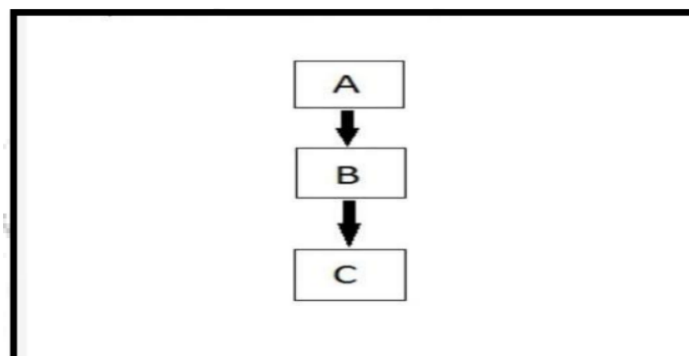
2) Multilevel inheritance :

In this type of inheritance the derived class inherits from a class , which in turn inherits from some other class. The Parent class for one ,is child class for the other.



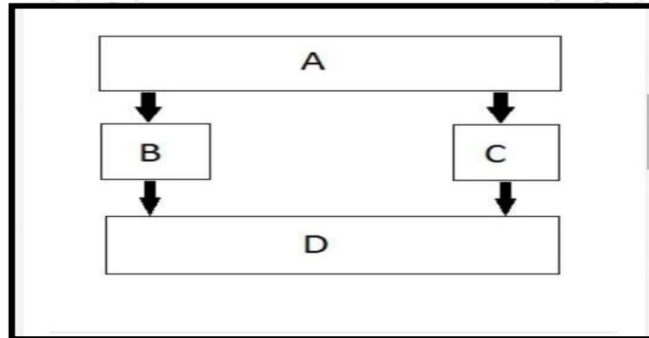
3) Multiple inheritance :

In this type of inheritance a single derived class may inherits from two or more than two base classes.



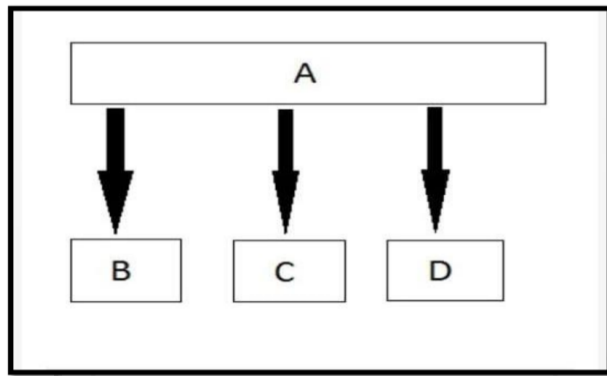
4) Hybrid (virtual) inheritance :

Hybrid inheritance is combination of Hierarchical and multiple inheritance .



5) Hierarchical Inheritance:

In this type of inheritance , multiple derived classes inherits from a single base class.



0.8 APPLICATIONS OF THIS MICRO-PROJECT :-

0.9. OUTPUT OF MICRO-PROJECT:

```
.....STUDENT MANAGEMENT SYSTEM.....  
=====
```

0. Exit from Program
1. Add Student
2. Display Student
3. Search Student
4. Delete Student
5. Get Deleted Student Records:
6. Modify Student

Enter your choice :

```
Enter Student Details.....  
Enter Admission No.      : 1  
Enter Full Name          : riya kharade  
Enter Gender (M/F)       : F  
Enter Standard           : 11  
Enter Marks (out of 500): 456
```

```
Data Successfully Saved to File....  
Press any key to continue.
```

```
.....Student Details.....
Admission No.      : 1
Full Name          : riya kharade
Gender             : F
Standard           : 11
Marks (out of 500): 456
Percentage          : 91.199997
```

```
.....Student Details.....
Admission No.      : 202
Full Name          : purva jadhav
Gender             : F
Standard           : 11
Marks (out of 500): 450
Percentage          : 90
```

```
Data Reading from File Successfully Done....
Press any key to continue.
```

```
Enter Admission Number you want to search : 1
The Details of Admission No. 1 shown herewith:
```

```
.....Student Details.....
Admission No.      : 1
Full Name          : riya kharade
Gender             : F
Standard           : 11
Marks (out of 500): 456
Percentage          : 91.199997
```

```
Data Reading from File Successfully Done....
Press any key to continue.
```

```
Enter Admission Number you want to move to Trash : 2
The Following Admission No. 2 has been moved to Trash:
```

```
.....Student Details.....
Admission No.      : 2
Full Name          : pratik shejwal
Gender             : m
Standard           : 11
Marks (out of 500): 300
Percentage         : 60

Press any key to continue.
```

```
.....Student Details.....
Admission No.      : 204
Full Name          :
Gender             : m
Standard           : 11
Marks (out of 500): 450
Percentage         : 90
```

```
.....Student Details.....
Admission No.      : 2
Full Name          : pratik shejwal
Gender             : m
Standard           : 11
Marks (out of 500): 300
Percentage         : 60
```

```
Data Reading from Trash File Successfully Done....
Press any key to continue.
```

The Following Admission No. 1 will be modified with new data:

.....Student Details.....

Admission No. : 1
Full Name : riya kharade
Gender : F
Standard : 11
Marks (out of 500): 456
Percentage : 91.199997

Now Enter the New Details....

Enter Student Details.....

Enter Admission No. : 3
Enter Full Name : Nirbhay
Enter Gender (M/F) : M
Enter Standard : 12
Enter Marks (out of 500): 490

Press any key to continue.

10. CONCLUSION:

- 1) Student report card system is very simple project that helps us to store report cards of students for long time.
- 2) By completing this project we are able to use all function in header files used in project easily.
- 3) We understand use of classes and object made project simple.
- 4) By this project we understand how to use file handling in C++.

11. Skill Developed:

- 1) To present specific topic professionally.
- 2) To work with unity .
- 3) To increase our thinking .
- 4) To work with team with proper unity.
- 5) To increase our thinking and reach at the depth of the concept.

THANK YOU