**ASSIGNMENT NUMBER 1**

**STATEMENT**: Develop an object oriented program in C++ to create a database of student information system containing the following information: Name, Roll number, Class, division, Date of Birth, Blood group, Contact address, telephone number, driving license no. etc Construct the database with suitable member functions viz, static member functions, friend class/ friend function, this pointer, inline code and dynamic memory allocation operators-new and delete. Implement all the keywords as mentioned in the problem statement.

**AIM**: To develop a student database system using OOP concepts.

**DESCRIPTION**: Create a class ‘student’ with friend functions to read and display student information.

**OOP CONCEPT USED**:

1. **Friend function**-: A friend function of a class is defined outside that class's scope but it has the right to access all private and protected members of the class.
2. **This pointer**-: In C++, this pointer is used to represent the address of an object inside a member function.
3. **Inline function**-: C++ provides an inline function to reduce the function call overhead. Inline function is a function that is expanded in line when it is called.
4. **Dynamic memory allocation**-: Dynamic memory allocation in C/C++ refers to performing memory allocation manually by programmer.

C++ supports these functions and has 2 operators ‘new’ and ‘delete’ that perform the task of allocating and freeing the memory in a better and easier way.

5. **Static Member Function** -: A static member function is a special member function, which is used to access only static data members, any other normal data member cannot be accessed through static member function.

**CONCLUSION**: In this following assignment, we learned the use of friend functions and this pointer. We also learned the use of dynamic memory allocation.