Project Conventions

Listed below are the various conventions to be followed during the project. A Dropbox account has been created, the details of which are put up in the Google Group. If possible, 2 folders will be created, one for each sub-group, Pratyush and Pravinkumar. All files must be uploaded there. Moreover, these conventions are for the sake of readability and ease of usage. So, please follow them.

1.   Operating System:

Please use only Ubuntu for coding. It helps to maintain uniformity in code. Coding in Windows may require some extra pre-processor directives.

2.   File name:

Each word to start with a capital letter. Two or more words to be separated with an underscore "_". Example: Project_Conventions.pdf (yes, this file), Student_Class.h etc.

3.   Coding conventions:

First line of each program should be:
"//CS101 Course Project, Autumn Semester, Lab Group 542"

Next line should be:
"//File <File_Name>"

Two or more functions should have an empty between them. Operators and brackets (except square brackets for arrays) should be preceded and followed (if something is there after it) by a space. Variables too must be named in a specific manner. If it consists of only one word, all are small letters. If two or more words are present, the second word, third word etc. should start with a capital letter. Example: marks, cpi, rollNo, noOfCourses. Insert relevant comments if variable name is a little vague.

In the following sample program, apart from the first two comment lines, the rest are for clarifying the coding conventions.

```
//CS101 Course Project, Autumn Semester, Lab Group 542
//File Sample.cpp

#include <whatever>
using _____;

/* The brace "{" must be inserted in a new line and not next to the parentheses, i.e.

Correct:
int main ()
{
```
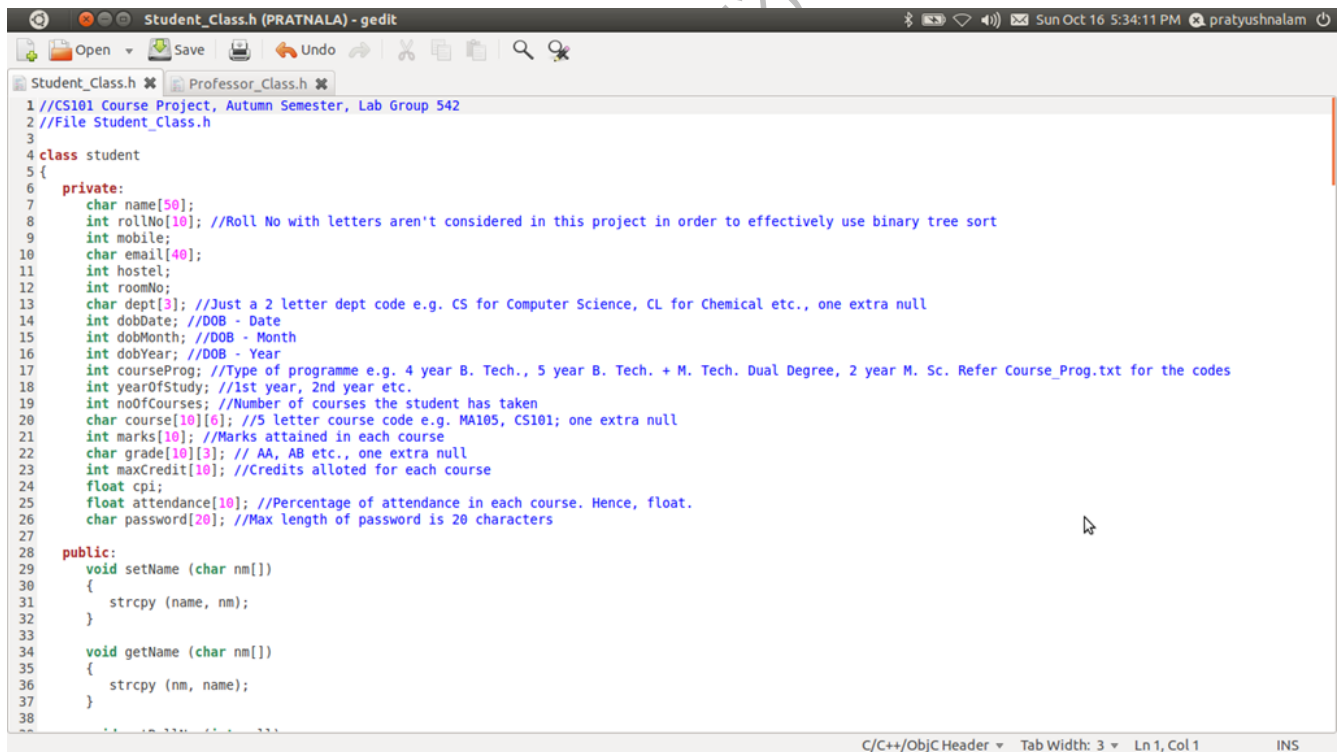
Wrong:
int main () {
*/
void function1 (int variable)
{
    char someVariable;
    int array[10]; //Notice no space before square bracket
    cout << "Hello" << endl;
}

int main ()
{
    int a;
    function1 (5);
    cin >> a;
    cout << a << endl;
    return 0;
}

A real program, zoom the document to see it bigger:


```
1 //CS101 Course Project, Autumn Semester, Lab Group 542
2 //File Student_Class.h
3
4 class student
5 {
6     private:
7         char name[50];
8         int rollNo[10]; //Roll No with letters aren't considered in this project in order to effectively use binary tree sort
9         int mobile;
10        char email[40];
11        int hostel;
12        int roomNo;
13        char dept[3]; //Just a 2 letter dept code e.g. CS for Computer Science, CL for Chemical etc., one extra null
14        int dobDate; //DOB - Date
15        int dobMonth; //DOB - Month
16        int dobYear; //DOB - Year
17        int courseProg; //Type of programme e.g. 4 year B. Tech., 5 year B. Tech. + M. Tech. Dual Degree, 2 year M. Sc. Refer Course_Prog.txt for the codes
18        int yearOfStudy; //1st year, 2nd year etc.
19        int noOfCourses; //Number of courses the student has taken
20        char course[10][6]; //5 letter course code e.g. MA105, CS101; one extra null
21        int marks[10]; //Marks attained in each course
22        char grade[10][3]; // AA, AB etc., one extra null
23        int maxCredit[10]; //Credits alloted for each course
24        float cpi;
25        float attendance[10]; //Percentage of attendance in each course. Hence, float.
26        char password[20]; //Max length of password is 20 characters
27
28    public:
29        void setName (char nm[])
30        {
31            strcpy (name, nm);
32        }
33
34        void getName (char nm[])
35        {
36            strcpy (nm, name);
37        }
38
```

Please follow these conventions and make life simpler for all of us.

–   Pratyush Nalam