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CODE:

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Write a CPP to create a student class with details like Roll no, name, marks of five subjects, percentage, grade, and Class. Write following functions:

1. Parameterized contructor

2. Destructor

3. Display

4. Calculate%

5. Calculate grade

6. Calculate class

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#include<bits/stdc++.h>

using namespace std;

#define subs 3

// The number of Subjects

class student{

private:

    int \*roll = new int, \*marks;

    float \*percent = new float;

    char \*name;

    const char \*grade;

public:

    student(int r, int \*m, char \*n){

        // r is roll, m is marks array, n is name array

        \*roll = r;

        marks = new int[subs];

        for(int i=0; i < subs; i++)

            marks[i] = m[i];

        name = new char[sizeof(n)/sizeof(char)];

        for(int i=0; i < sizeof(n)/sizeof(char); i++)

            name[i] = n[i];

        calculatePercentage();

        calculateGrade();

    }

    ~student(){

        delete roll, marks, percent, name, grade;

    }

    void display(){

        cout<<"Name of the student: ";

        cout<<name;

        cout<<"\nRoll no: "<<\*roll<<"\n";

        cout<<"The percentage is: "<<\*percent<<"\n";

        cout<<"The grade is: ";

        cout<<grade;

        cout<<"\n\n";

    }

    void calculatePercentage(){

        // Percentage is Sum of marks from all subjects / Sum of max marks

        int sum = 0;

        for(int i=0; i < subs; i++)

            sum += marks[i];

        \*percent = (float)sum/(100\*subs) \* 100;

    }

    void calculateGrade(){

        if (\*percent > 90){

            grade = "A++";

        }

        else if(\*percent > 80 && \*percent < 90)

            grade = "A+";

        else if(\*percent > 70 && \*percent < 80)

            grade = "A";

        else if(\*percent > 60 && \*percent < 70)

            grade = "B";

        else

            grade = "C";

    }

};

int main(){

    student \*s1;

    int roll, \*marks = new int[subs];

    cout<<"Enter the details of student as following:\n";

    string \*n = new string;

    cout<<"Enter the name of student:\n";

    getline(cin, \*n);

    char \*name = new char[n->length() + 1];

    strcpy(name, n->c\_str());

    delete n;

    cout<<"Enter the roll number:\n";

    cin>>roll;

    cout<<"Enter the marks of "<<subs<<" subjects:\n";

    for(int i=0; i < subs; i++){

        cout<<"SUBJECT "<<i+1<<": ";

        cin>>marks[i];

    }

    fflush(stdin);

    s1 = new student(roll, marks, name);

    s1->display();

}

