

UNIVERSITY OF ENGINEERING AND TECHNOLOGY, TAXILA



SOFTWARE ENGINEERING

LAB-12 SOLUTION

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REG NO : 20-SE-56

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TASK-1

Create a class called student that contains following data members:

1. roll_num
2. PF_marks
3. Maths_marks(all of type int).

It also include two global variables

1. Total_Marks_PF
2. Total_Marks_Maths that are initialized to value 100.

It Include member functions

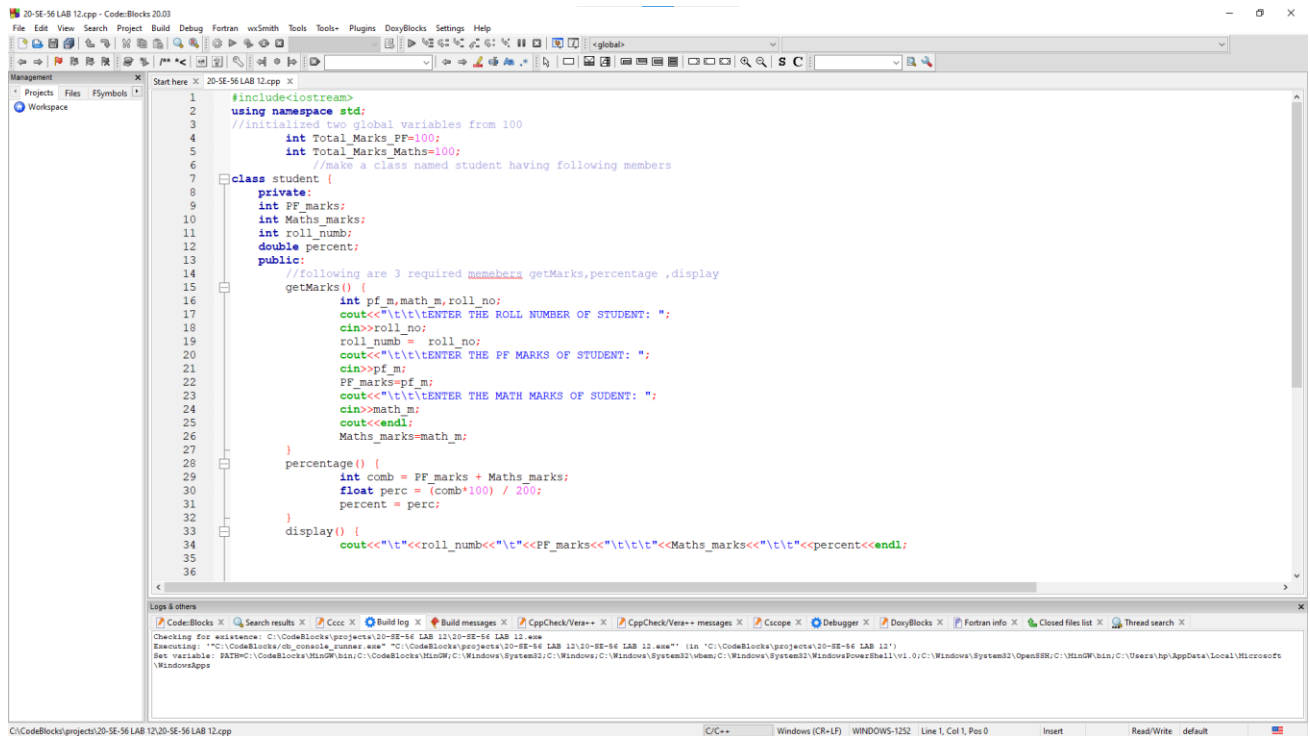
1. get_marks() to get data from the user for insertion into the object
2. percentage() that calculate the percentage score against each student
3. display () to display the data.

Roll numbers are assigned at the time of creation of object of type student.

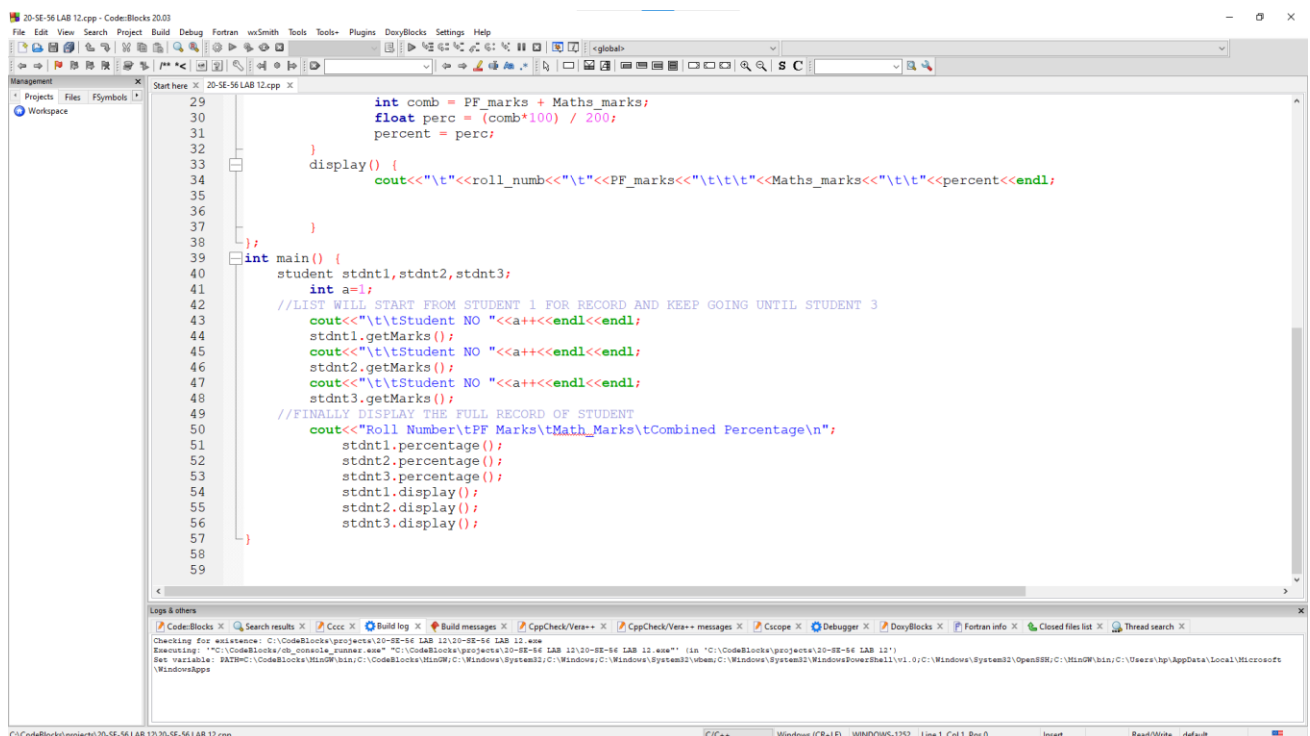
Write a main () program that create 3 objects of type student, and then invite the user to input data for the three students and display the percentages accordingly.

SOLUTION

CODE



```
1 #include<iostream>
2 using namespace std;
3 //initialized two global variables from 100
4 int Total_Marks_PF=100;
5 int Total_Marks_Maths=100;
6 //make a class named student having following members
7 class student {
8 private:
9 int PF_marks;
10 int Maths_marks;
11 int roll_num;
12 double percent;
13 public:
14 //following are 3 required members getMarks,percentage ,display
15 getMarks() {
16 int pf_m,math_m,roll_no;
17 cout<<"\t\t\tENTER THE ROLL NUMBER OF STUDENT: ";
18 cin>>roll_no;
19 roll_num = roll_no;
20 cout<<"\t\t\tENTER THE PF MARKS OF STUDENT: ";
21 cin>>pf_m;
22 PF_marks=pf_m;
23 cout<<"\t\t\tENTER THE MATH MARKS OF STUDENT: ";
24 cin>>math_m;
25 cout<<endl;
26 Maths_marks=math_m;
27 }
28 percentage() {
29 int comb = PF_marks + Maths_marks;
30 float perc = (comb*100) / 200;
31 percent = perc;
32 }
33 display() {
34 cout<<"\t\t\troll_num<<"\t"<<PF_marks<<"\t\t"<<Maths_marks<<"\t\t"<<percent<<endl;
35 }
36 }
```



```
29 int comb = PF_marks + Maths_marks;
30 float perc = (comb*100) / 200;
31 percent = perc;
32 }
33 display() {
34 cout<<"\t\t\troll_num<<"\t"<<PF_marks<<"\t\t"<<Maths_marks<<"\t\t"<<percent<<endl;
35 }
36 }
37 }
38 }
39 int main() {
40 student stdnt1,stdnt2,stdnt3;
41 int a=1;
42 //LIST WILL START FROM STUDENT 1 FOR RECORD AND KEEP GOING UNTIL STUDENT 3
43 cout<<"\t\t\tStudent NO "<<a++<<endl<<endl;
44 stdnt1.getMarks();
45 cout<<"\t\t\tStudent NO "<<a++<<endl<<endl;
46 stdnt2.getMarks();
47 cout<<"\t\t\tStudent NO "<<a++<<endl<<endl;
48 stdnt3.getMarks();
49 //FINALLY DISPLAY THE FULL RECORD OF STUDENT
50 cout<<"Roll Number\tPF Marks\tMath_Marks\tCombined Percentage\n";
51 stdnt1.percentage();
52 stdnt2.percentage();
53 stdnt3.percentage();
54 stdnt1.display();
55 stdnt2.display();
56 stdnt3.display();
57 }
58 }
59 }
```

OUTPUT

```
"C:\CodeBlocks\projects\20-SE-56 LAB 12\20-SE-56 LAB 12.exe"

Student NO 1

ENTER THE ROLL NUMBER OF STUDENT: 12
ENTER THE PF MARKS OF STUDENT: 99
ENTER THE MATH MARKS OF STUDENT: 87

Student NO 2

ENTER THE ROLL NUMBER OF STUDENT: 2
ENTER THE PF MARKS OF STUDENT: 50
ENTER THE MATH MARKS OF STUDENT: 49

Student NO 3

ENTER THE ROLL NUMBER OF STUDENT: 33
ENTER THE PF MARKS OF STUDENT: 98
ENTER THE MATH MARKS OF STUDENT: 75

Roll Number    PF Marks    Math_Marks    Combined Percentage
12             99          87            93
2              50          49            49
33             98          75            86

Process returned 0 (0x0)   execution time : 24.359 s
Press any key to continue.
```