LAB 01

TASK 1

#include <iostream>

using namespace std;

class Student {

public:

string name;

int rollNumber;

};

int main() {

Student s;

s.name = "Amna";

s.rollNumber = 1001;

cout << "Name: " << s.name << endl;

cout << "Roll Number: " << s.rollNumber << endl;

}



TASK 2

#include <iostream>

using namespace std;

class Student {

public:

string name;

private:

int rollNumber;

public:

void setRollNo(int r) {

rollNumber = r;

}

int getRollNo() {

return rollNumber;

}

};

int main() {

Student s;

s.name = "Suha";

s.setRollNo(202);

cout << "Name: " << s.name << endl;

cout << "Roll Number: " << s.getRollNo() << endl;

}



TASK 3

#include <iostream>

using namespace std;

class Calculator {

private:

int num1, num2;

public:

void setNumbers(int a, int b) {

num1 = a;

num2 = b;

}

int add() {

return num1 + num2;

}

};

int main() {

Calculator c;

c.setNumbers(5, 7);

cout << "Sum: " << c.add() << endl;

}



TASK 4

#include <iostream>

using namespace std;

class Calculator {

private:

int num1, num2;

public:

void setNumbers(int a, int b);

int add();

};

void Calculator::setNumbers(int a, int b) {

num1 = a;

num2 = b;

}

int Calculator::add() {

return num1 + num2;

}

int main() {

Calculator c;

c.setNumbers(10, 15);

cout << "Sum: " << c.add() << endl;

}



TASK 5

#include <iostream>

using namespace std;

class Concrete {

private:

string message;

public:

Concrete(string msg) {

message = msg;

}

void displayMessage() {

cout << message << endl;

}

};

int main() {

Concrete c("Hello, this is a concrete class example");

c.displayMessage();

}



TASK 6

#include <iostream>

using namespace std;

class Vehicle {

public:

string make;

string model;

void displayInfo() {

cout << "Make: " << make << endl;

cout << "Model: " << model << endl;

}

};

class Car : public Vehicle {

public:

string engineType;

void displayInfo() {

Vehicle::displayInfo();

cout << "Engine Type: " << engineType << endl;

}

};

int main() {

Car c;

c.make = "Toyota";

c.model = "Corolla";

c.engineType = "Hybrid";

c.displayInfo();

}

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TASK 7

#include <iostream>

using namespace std;

class Student {

private:

string name;

int rollNo;

double marks;

char grade;

public:

Student(string n, int r, double m) {

name = n;

rollNo = r;

marks = m;

}

void calculateGrade() {

if (marks >= 90)

grade = 'A';

else if (marks >= 80)

grade = 'B';

else if (marks >= 70)

grade = 'C';

else

grade = 'F';

}

void displayStudentInfo() {

cout << "Name: " << name << endl;

cout << "Roll No: " << rollNo << endl;

cout << "Marks: " << marks << endl;

cout << "Grade: " << grade << endl;

}

};

int main() {

Student s1("Amna", 101, 92.5);

Student s2("Suha", 102, 75.0);

s1.calculateGrade();

s2.calculateGrade();

s1.displayStudentInfo();

cout << endl;

s2.displayStudentInfo();

}

