Qno1.You are developing a banking system. Create a class for a "BankAccount" with private attributes such as balance, account number, and account holder name. Implement getter and setter methods to ensure controlled access to these attributes. Discuss how these methods contribute to encapsulation and data integrity within the context of a banking system.

#include<iostream>

using namespace std;

class bankaccount {

private:

int accountnumber;

int balance;

string name;

public:

void set\_accountnumber(int an) {

accountnumber = an;

}

int get\_accountnumber() {

return accountnumber;

}

void set\_balance(int ba) {

balance = ba;

}

int get\_balance() {

return balance;

}

void set\_name(string n) {

name = n;

}

string get\_name() {

return name;

}

void display() {

cout << "name of account holder is " << name << endl;

cout << "account number of user is " << accountnumber << endl;

cout << "balance of account holder is " << balance << endl;

}

};

int main() {

bankaccount ba;

ba.set\_balance(12345);

ba.set\_accountnumber(12345769);

ba.set\_name("fasil raja");

ba.display();

}

Qno3 In the context of a social media application, implement a class for a "User" and a "Post." Utilize friend functions or friend classes to establish a connection between the two classes that allows a user to access and interact with posts in a secure manner. Write C++ code to explain how using friend functions or friend classes enhances the design and implementation of your classes.

/\*#include<iostream>

using namespace std;

class bankaccount {

private:

int accountnumber;

int balance;

string name;

public:

void set\_accountnumber(int an) {

accountnumber = an;

}

int get\_accountnumber() {

return accountnumber;

}

void set\_balance(int ba) {

balance = ba;

}

int get\_balance() {

return balance;

}

void set\_name(string n) {

name = n;

}

string get\_name() {

return name;

}

void display() {

cout << "name of account holder is " << name << endl;

cout << "account number of user is " << accountnumber << endl;

cout << "balance of account holder is " << balance << endl;

}

};

int main() {

bankaccount ba;

ba.set\_balance(12345);

ba.set\_accountnumber(12345769);

ba.set\_name("fasil raja");

ba.display();

}\*/

#include<iostream>

using namespace std;

class post;

class User{

private:

string username;

string id;

public:

User() {

}

User(string u, string i) {

username = u;

id = i;

}

friend void connection(post &p, User &u);

};

class post {

private:

string postname;

string posttype;

public:

post() {

}

post(string pn, string pt) {

postname = pn;

posttype = pt;

}

friend void connection(post &p, User &u);

};

void connection(post &p,User &u) {

cout << "user name of post is " << u.username << endl;

cout << "id of user is " << u.id << endl;

cout << "postname of user is " << p.postname << endl;

cout << "posttype of user is " << p.posttype << endl;

}

int main() {

User obj("fasil", "1122");

post obj1("fun","funny");

connection(obj1,obj);

}

Qno3

#include<iostream>

using namespace std;

class creature {

protected:

string name;

string color;

int age;

public:

};

class animal : public creature {

private:

string hieght;

public:

animal(string n, string c, int a, string h) {

name = n;

color = c;

age = a;

hieght = h;

}

void display() {

cout << "name of animal is " << name << endl;

cout << "color of animal is " << color << endl;

cout << "age of animal is " << age << endl;

cout << "hieght of animal is " << hieght << endl;

}

};

class mythicalbieng:public creature{

public:

mythicalbieng(string n, string c, int a) {

name = n;

color = c;

age = a;

}

void display() {

cout << "name of animal is " << name << endl;

cout << "color of animal is " << color << endl;

cout << "age of animal is " << age << endl;

}

};

class magicalcreature :public creature {

public:

magicalcreature(string n, string c, int a) {

name = n;

color = c;

age = a;

}

void display() {

cout << "name of animal is " << name << endl;

cout << "color of animal is " << color << endl;

cout << "age of animal is " << age << endl;

}

};

int main() {

animal a("lion", "brown", 34, "6.6");

a.display();

mythicalbieng m("fox", "blue", 34);

m.display();

magicalcreature r("goat", "red", 23);

r.display();

}