# #8

**SOURCE CODE:**

#include<iostream> using namespace std;

class node{ public:

int roll; node \*next;

node \*vanilla = NULL; node \*butter = NULL; node(int roll){

this->roll = roll; this->next = roll;

}

public:

void addVanilla(); void displayVanilla(); void addButter(); void displayButter();

void VanillaAndButter(); void VanillaOrButter();

};

void node::addVanilla(){ int p;

cout << "Enter roll number : "; cin >> p;

node \*temp = new node(p); if (vanilla == NULL){

vanilla = temp; return;

}

else{

temp->next = vanilla->next; vanilla->next = temp;

}

}

void node::addButter(){ int p;

cout << "Enter roll number : "; cin >> p;

node \*temp = new node(p); if (butter == NULL){

butter = temp; return;

}

else{

temp->next = butter->next; butter->next = temp;

}

}

void node::displayVanilla(){ node \*cur = vanilla;

cout << "Displaying roll numbers of students who like Vanilla ice-cream : "<<endl; while (cur != NULL){

cout << "Roll number : "<< cur->roll << endl; cur = cur->next;

}

}

void node::displayButter(){ node \*cur = butter;

cout << "Displaying roll numbers of students who like Vanilla ice-cream : "<<endl; while (cur != NULL){

cout << "Roll number : "<< cur->roll << endl; cur = cur->next;

}

}

void node::VanillaAndButter(){ node \*temp1 = vanilla; node \*temp2 = butter;

while (temp1 != NULL && temp2 != NULL){ if(temp1->roll == temp2->roll){

cout << "Common roll number is : "<<temp1->roll << endl;

}

temp1 = temp1->roll; temp2 = temp2->roll;

}

}

void node::VanillaOrButter(){ node \*temp1 = vanilla; node \*temp2 = butter;

while (temp1 != NULL && temp2 != NULL){ if(temp1->roll != temp2->roll){

cout << "Student who like Vanilla only : "<< endl;

cout << "Roll number is " << temp1->roll << endl;

}

temp1 = temp1->next; temp2 = temp2->next;

}

node \*temp3 = vanilla; node \*temp4 = butter;

while (temp3 != NULL && temp4 != NULL){ if(temp3->roll != temp4->roll){

cout << "Student who like Butter-Scotch only : "<< endl; cout << "Roll number is " << temp4->roll << endl;

}

temp3 = temp3->next; temp4 = temp4->next;

}

}

int main(){ node obj(0);

bool flag = true; while(flag){

cout << "Choices : " << endl;

cout << "1. Student who like Vanilla\n2. Student who like Butter-Scotch\n3.

Display list of students who like Vanilla\n4. Display list of students who like Butter- Scotch

\n5. List of students who like Vanilla and Butter-scotch\n6. List of students who like Vanilla Or Butter-scotch\n7. Exit" << endl;

cout << "Enter your choice : "; int ch;

cin >> ch; switch(ch){

case 1:

obj.addVanilla(); break;

case 2:

obj.addButter(); break;

case 3:

obj.displayVanilla(); break;

case 4:

obj.displayButter(); break;

case 5:

obj.VanillaAndButter(); break;

case 6:

obj.VanillaOrButter(); break;

case 7:

flag = false;

cout << "Program ended !!" << endl; break;

default:

cout << "Invalid Choice " << endl; break;

}

}

}