**Create a class called Musicians to contain three methods string ( ), wind ( ) and perc ( ). Each of these methods should initialize a string array to contain the following instruments**

**- veena, guitar, sitar, sarod and mandolin under string ( )**

**- flute, clarinet saxophone, nadhaswaram and piccolo under wind ( )**

**- tabla, mridangam, bangos, drums and tambour under perc ( )**

**It should also display the contents of the arrays that are initialized. Create a derived class called TypeIns to contain a method called get ( ) and show ( ). The get ( ) method must display a menu as follows**

**Type of instruments to be displayed**

**a. String instruments**

**b. Wind instruments**

**c. Percussion instruments**

**The show ( ) method should display the relevant detail according to our choice. The base class variables must be accessible only to its derived classes.**

**#include <iostream>**

**#include <cstring>**

**#define SUCCESS 0**

**class Musicians**

**{**

**protected:**

**std::string str[5];**

**std::string wnd[5];**

**std::string per[5];**

**public:**

**void string()**

**{**

**str[0] ="vern";**

**str[1]="guitar";**

**str[2]="sitar";**

**str[3]="sarod";**

**str[4]="mandolin";**

**std::cout<< "string instrument has been initialized to" << std::endl;**

**for(int i = 0 ; i < 5; i++)**

**{**

**std::cout << str[i] << std::endl;**

**}**

**}**

**void wind(){**

**wnd[0]="flute";**

**wnd[1]="mridangam";**

**wnd[2]="bangos";**

**wnd[3]="drums";**

**wnd[4]="tambour";**

**std::cout<< "wind instrument has been initialized to" << std::endl;**

**for(int i = 0 ; i < 5; i++)**

**{**

**std::cout << wnd[i] << std::endl;**

**}**

**}**

**void perc()**

**{**

**per[0]="tabla";**

**per[1]="mridangam";**

**per[2]="bangos";**

**per[3]="drums";**

**per[4]="tambour";**

**std::cout<< "percussion instrument has been initialized to" << std::endl;**

**for(int i = 0 ; i < 5; i++)**

**{**

**std::cout << per[i] << std::endl;**

**}**

**}**

**};**

**class TypeIns:public Musicians**

**{**

**public:**

**std::string\* get()**

**{**

**std::cout<<"Type of instrument to be displayed" << std::endl;**

**std::cout << "a. String instruments" << std::endl;**

**std::cout << "b. Wind instruments" << std::endl;**

**std::cout << "c. Percussion instruments" << std::endl;**

**char choice;**

**std::cin >> choice;**

**show(choice);**

**}**

**void show(char choice)**

**{**

**if(choice == 'a')**

**{**

**for(int i = 0 ; i < 5; i++)**

**{**

**std::cout << str[i] << std::endl;**

**}**

**}**

**else if(choice == 'b')**

**{**

**for(int i = 0 ; i < 5; i++)**

**{**

**std::cout << wnd[i] << std::endl;**

**}**

**}**

**else**

**{**

**for(int i = 0 ; i < 5; i++)**

**{**

**std::cout << per[i] << std::endl;**

**}**

**}**

**}**

**};**

**int main()**

**{**

**TypeIns t;**

**t.string();**

**t.perc();**

**t.wind();**

**t.get();**

**return SUCCESS;**

**}**

**#include<iostream>//or**

**#include<vector>**

**using namespace std;**

**class Musicians**

**{**

**protected:**

**vector<string> str,win,per;**

**public:**

**void String ()**

**{**

**str={"veena","guitar","sitar","sarod","mandolin"};**

**cout<<"\nstring instruments:"<<endl;**

**for (int i=0;i<5;i++)**

**{**

**cout<<str[i]<<endl;**

**}**

**cout<<"\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n";**

**}**

**void Wind()**

**{**

**win={"flute","clarinet","saxophone","nadhaswaram","piccolo"};**

**cout<<"\nwind instruments:"<<endl;**

**for (int i=0;i<5;i++)**

**{**

**cout<<win[i]<<endl;**

**}**

**cout<<"\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n";**

**}**

**void Perc ()**

**{**

**per={"tabla","mridangam","bangos","drums","tambour"};**

**cout<<"\npercussion instruments:"<<endl;**

**for (int i=0;i<5;i++)**

**{**

**cout<<per[i]<<endl;**

**}**

**cout<<"\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n";**

**}**

**};**

**class TypeIns:public Musicians**

**{**

**char c;**

**public:**

**void get()**

**{**

**cout<<"Type of instruments to be displayed:"<<endl;**

**cout<<"a. String instruments"<<endl;**

**cout<<"b. Wind instruments"<<endl;**

**cout<<"c. Percussion instruments"<<endl;**

**cout<<"Enter your selection(a/b/c):";**

**cin>>c;**

**}**

**void show()**

**{**

**switch(c)**

**{**

**case 'a':**

**String();**

**break;**

**case 'b':**

**Wind();**

**break;**

**case 'c':**

**Perc();**

**break;**

**}**

**}**

**};**

**int main()**

**{**

**Musicians m1;**

**TypeIns t1;**

**m1.String();**

**m1.Wind();**

**m1.Perc();**

**t1.get();**

**t1.show();**

**}**