

4IT Erasmus+Project 2024-1-RO01-KA121-VET-000214264
Beneficiary Colegiul National Gheorghe Vranceanu, Bacau, Romania

Sending organization: Colegiul National ”Ferdinand” Bacau, Romania

MOBILITY PORTFOLIO
Paphos, Cyprus

Mobility period:
PAPHOS, CYPRUS, 13.04.2025-27.04.2025 – practice period 14.04.2025-25.04.2025

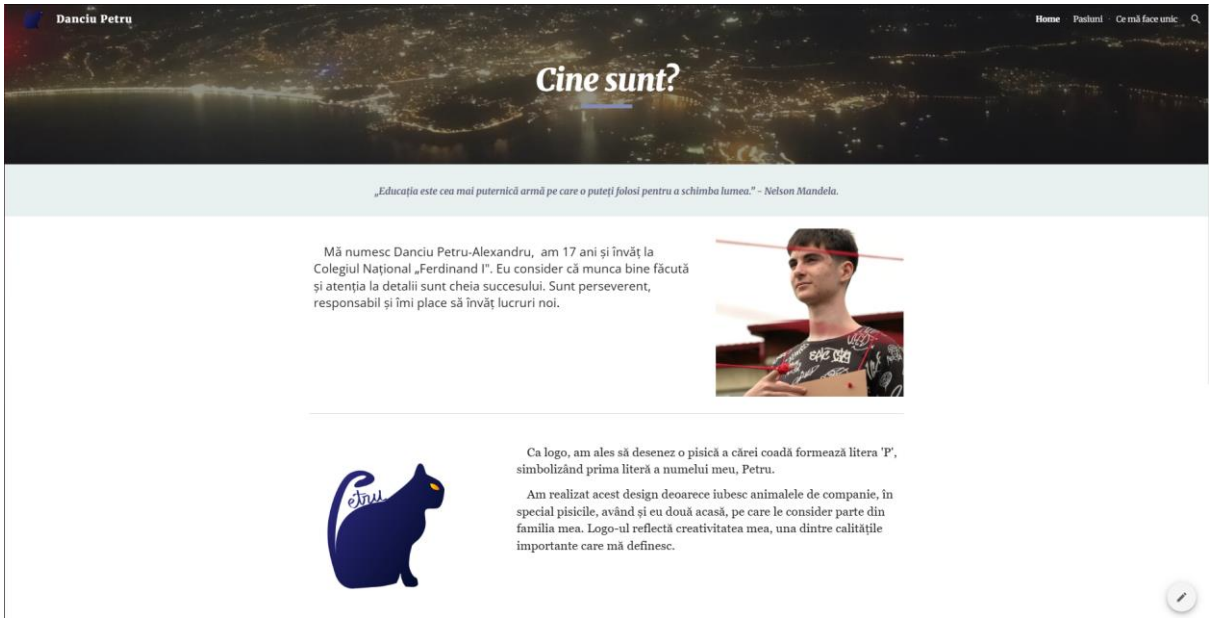
Receiving

Practice tutor: ***Lazaros Lazarou***

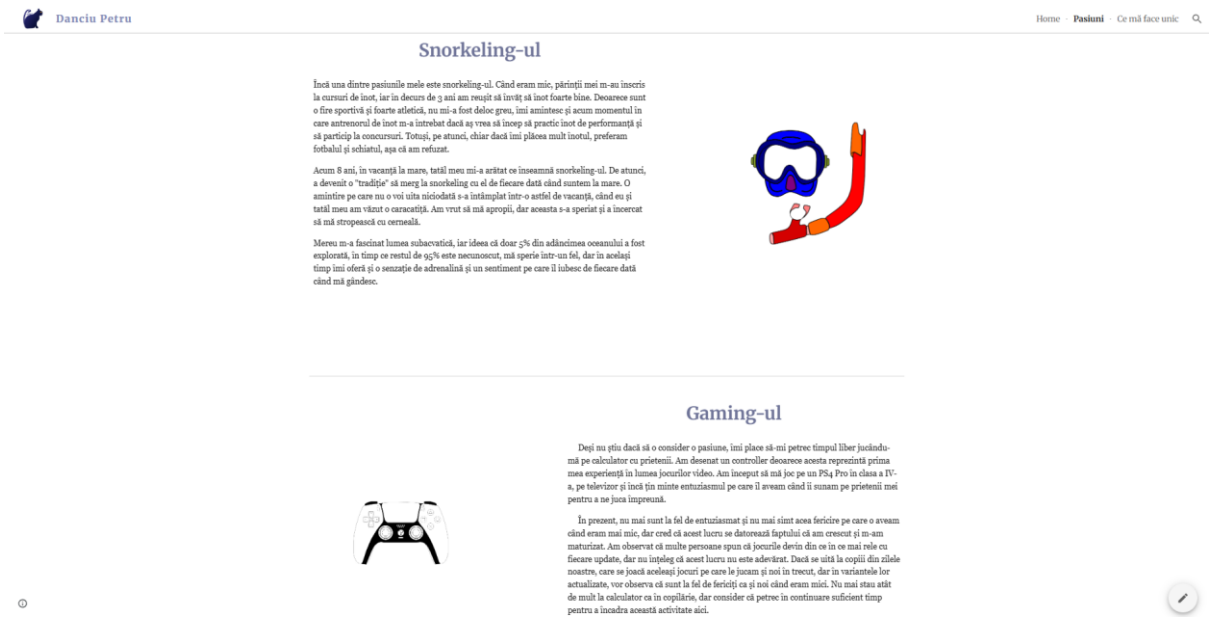
Participant: ***Danciu Petru-Alexandru***

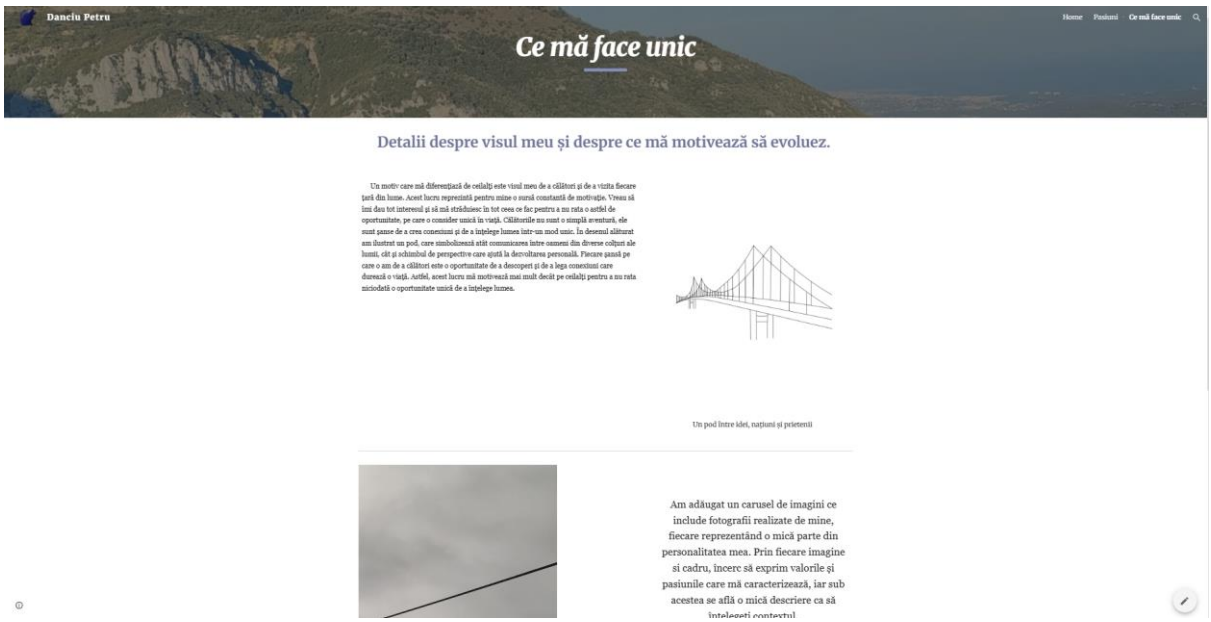
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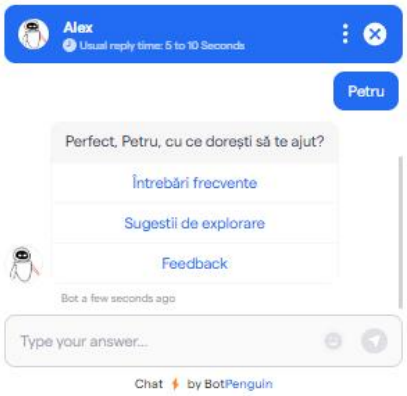
My personal website – About me Danciu Petru








Danciu Petru
Home
Pasiuni
Ce mă face unic
Ce mă face unic
Detalii despre visul meu și despre ce mă motivează să evoluez.
Un motiv care mă diferențiază de ceilalți este visul meu de a călători și de a vizita fiecare țară din lume. Acest lucru reprezintă pentru mine o sursă constantă de motivație. Vreau să îmi dau tot interesul și să mă străduiesc în tot ceea ce fac pentru a nu rata o astfel de oportunitate, pe care o consider unică în viață. Călătoriile nu sunt o simplă aventură, ele sunt gene de a crea conexiuni și de a înțelege lumea într-un mod unic. În desenul alăturat am ilustrat un pod, care simbolizează atât comunicarea între oameni din diverse colțuri ale lumii, cât și schimbul de perspective care ajută la dezvoltarea personală. Fiecare pasaj pe care o am de a călători este o oportunitate de a descoperi și de a lega conexiuni care durează o viață. Astfel, acest lucru mă motivează mai mult decât pe ceilalți pentru a nu rata niciodată o oportunitate unică de a înțelege lumea.
Un pod între idei, națiuni și prietenii
Am adăugat un carusel de imagini ce include fotografii realizate de mine, fiecare reprezentând o mică parte din personalitatea mea. Prin fiecare imagine si cadru, încerc să exprim valorile și pasiunile care mă caracterizează, iar sub acestea se află o mică descriere ca să


Alex
Usual reply time: 5 to 10 Seconds
Petru
Perfect, Petru, cu ce dorești să te ajut?
Întrebări frecvente
Sugestii de explorare
Feedback
Bot a few seconds ago
Type your answer...
Chat by BotPenguin

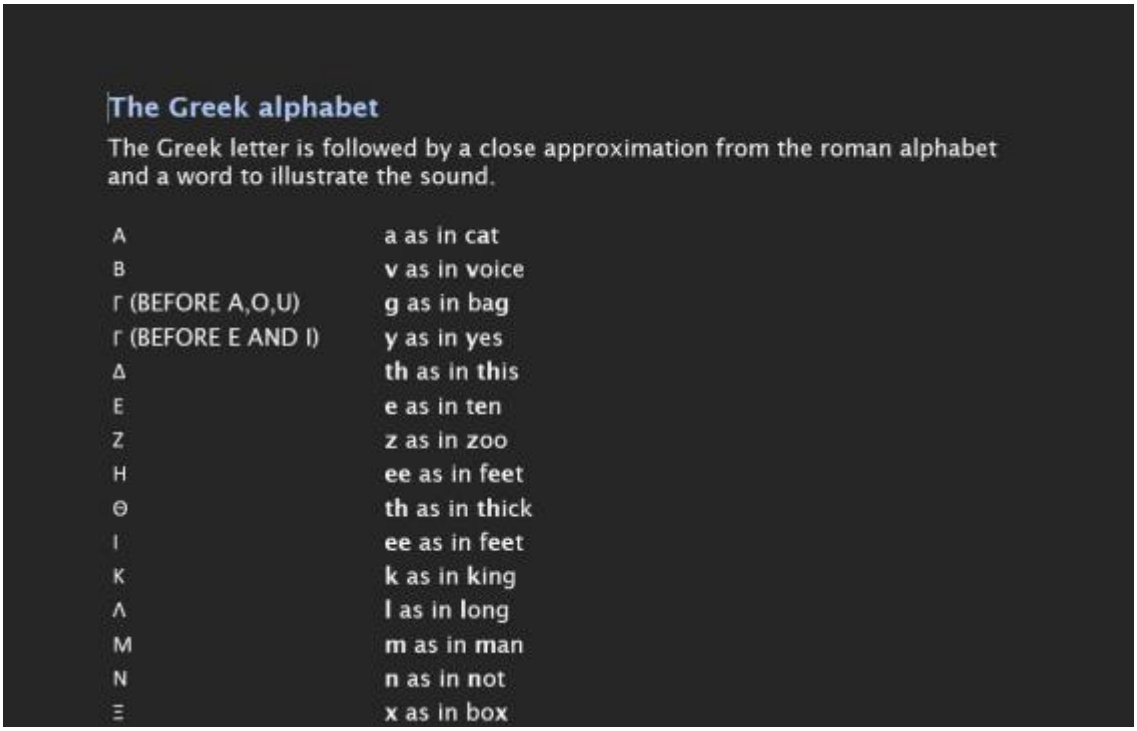
Training before mobility

1. Cultural training
-european values, active citizenship and active involvement (With Demetra)

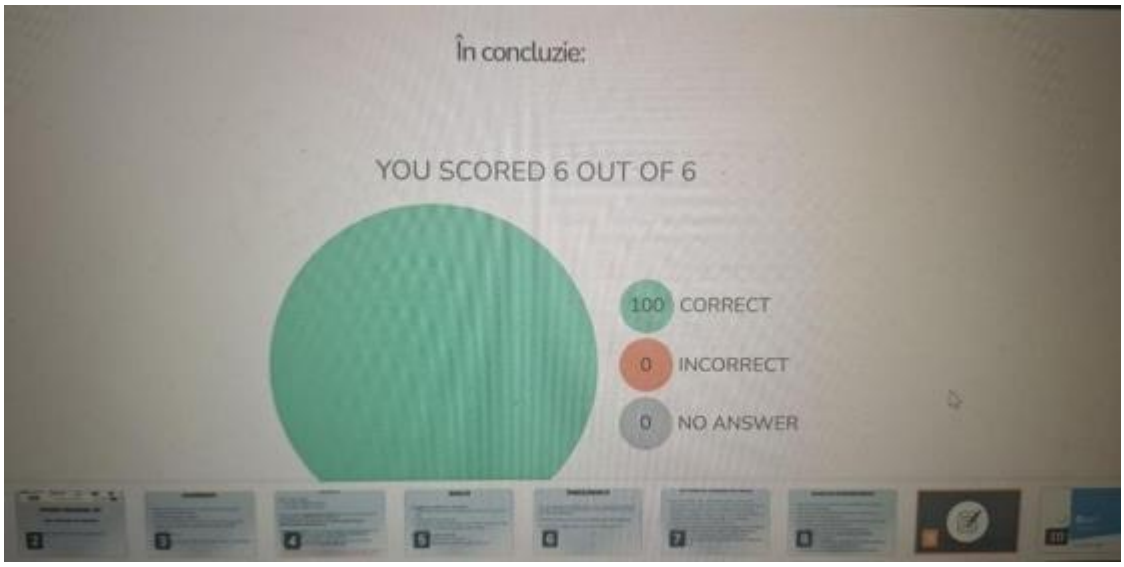




2. Linguistic training (With Stavroula Metaxa)



3. Pedagogical training (with Ema Fâciu)



Mobility projects

Understanding dynamic arrays

```cpp
#include <iostream>
using namespace std;
int main()
{
    int arraySize;
    cout<<"Enter array size:";
    cin>>arraySize;
    int *dynamicArray;
    dynamicArray= new int[arraySize];
    for(int i=0; i<arraySize; i++)
    {
        dynamicArray[i]=i+1;
    }
    cout<<endl;
    for(int i=0; i<arraySize; i++)
    {
        if(i<arraySize-1)
        {
            cout<<dynamicArray[i]<<" - ";
        }
        else cout<<dynamicArray[i];

    }
    cout<<endl;
    delete dynamicArray;
    return 0;
}
```

```
Enter array size:5

1 - 2 - 3 - 4 - 5

Process returned 0 (0x0)   execution time : 0.653 s
Press any key to continue.
```

Make a dynamic array and show the ASCII value as well.

```cpp
#include <iostream>
using namespace std;
/*
This example is showing you how to dynamically grow an array during run time.
It uses pointers to create the array.
*/

int main(){
    int ARRAYSIZE = 0;                          //the ARRAYSIZE is how many numbers the user wants to input. This might change if the user wishes to change it!
    int x;
    char* a;                                     //a is a pointer to a character. This is going to be our main array to save characters
    char* temp;                                  //temp is a pointer to a character and is going to be a temporary array. We need it in order to be able to GROW our array.
    int  n = 0, tmpN=0;                         //n is the counter to count the iterations. tmpN is a number we read from the user in order to see if they need to input more numbers than the initial decision.

    //--- Read into the array
    cout<<"How many numbers would you like to enter?: "; //ask the user and create an array according to the user's demand.
    cin>>ARRAYSIZE;                             //read the size of the array from the user
    a = new char[ARRAYSIZE];                    //dynamically create an array with the number the user gave to us.

    do{
        cout<<"Enter number "<<n+1<<" -> ";     //prompt the user to enter the numbers
        cin>>x;
        if(x >= 65 && x <= 90){
            a[n] = (char)x;                     // save the number as a character (e.g., ASCII A-Z)
            cout<<"Number saved!"<<endl;
            n++;                                //after saving the number we have to increase the counter
        }
        else {
            cout<<"Please enter a number between 65 and 90"<<endl;
        }

        if (n >= ARRAYSIZE){                    //if the new counter is equal to the ARRAYSIZE we need to GROW THE ARRAY
            cout<<"Out of Space!!!! Would you like to enter more? Please enter how many (0 to Exit): ";
            cin>>tmpN;
            if (tmpN > 0){
                ARRAYSIZE = ARRAYSIZE + tmpN;
                temp = new char[ARRAYSIZE];
                for (int i = 0; i < n; i++){
                    temp[i] = a[i];
                }
                delete [] a;
                a = temp;
            }
        }

    } while (n < ARRAYSIZE);

    cout<<"Now printing the numbers you inputted"<<endl;

    for (int i = 0; i < n; i++){                // only print up to n, the number of valid inputs
        cout<<a[i]<<" ("<<(int)a[i]<<")"<<endl;  // optional: print ASCII value too
    }

    delete [] a; //free the memory of a

    return 0;
}
```

```
How many numbers would you like to enter?: 3
Enter number 1 -> 15
Please enter a number between 65 and 90
Enter number 1 -> 67
Number saved!
Enter number 2 -> 60
Please enter a number between 65 and 90
Enter number 2 -> 80
Number saved!
Enter number 3 -> 82
Number saved!
Out of Space!!!! Would you like to enter more? Please enter how many (0 to Exit): 1
Enter number 4 -> 72
Number saved!
Out of Space!!!! Would you like to enter more? Please enter how many (0 to Exit): 0
Now printing the numbers you inputted
C (67)
P (80)
R (82)
H (72)

Process returned 0 (0x0)   execution time : 17.348 s
Press any key to continue.
```

Make a dynamic array saving people's telephone number and name. At the end be able to search with the telephone number or name.

```cpp
using namespace std;

int main()
{
    string* name;
    string* phone;
    string ask;
    int arrsize=0;
    int i=0,ok=0;

    cout<<"Enter the number of students that you need to save: ";
    cin>>arrsize;

    name= new string[arrsize];
    phone= new string[arrsize];

    for(i=0; i<arrsize; i++){
        cout<<"Enter Student name:";
        cin>>name[i];
        cout<<"Enter phone number for "<<name[i]<<":";
        cin>>phone[i];
    }

    cout<<"You saved: "<<endl<<"----------------------------"<<endl;
    for(int i=0;i<arrsize;i++){
        cout<<name[i]<<" - "<<phone[i]<<endl;
    }


    do{
        cout<<"----------------------------"<<endl;
        cout<<"What do you want to search for:"<<endl;
        cout<<"1 for telephone number"<<endl;
        cout<<"2 for name"<<endl;
        cout<<"0 to exit"<<endl;
        cin>>ok;
        if(ok==1){
            cout<<"----------------------------"<<endl;
            cout<<"Who's telephone number do you want: "<<endl;
            cin>>ask;
            for(i=0;i<arrsize;i++){
                if(ask==name[i]){
                    cout<<"----------------------------"<<endl;
                    cout<<name[i]<<" - "<<phone[i]<<endl;
                }
            }
        }
        else if(ok==2){
            cout<<"----------------------------"<<endl;
            cout<<"What's the telephone number of the person: "<<endl;
            cin>>ask;
            for(i=0;i<arrsize;i++){
                if(ask==phone[i]){
                    cout<<"----------------------------"<<endl;
                    cout<<name[i]<<" - "<<phone[i]<<endl;
                }
        }
        }
    }while(ok>0);
```

```
Enter the number of students that you need to save: 2
Enter Student name:Petru
Enter phone number for Petru:074212221
Enter Student name:Matt
Enter phone number for Matt:079922296
You saved:
----------------------------
Petru - 074212221
Matt - 079922296
----------------------------
What do you want to search for:
1 for telephone number
2 for name
0 to exit
1
----------------------------
Who's telephone number do you want:
Matt
----------------------------
Matt - 079922296
----------------------------
What do you want to search for:
1 for telephone number
2 for name
0 to exit
2
----------------------------
What's the telephone number of the person:
074212221
----------------------------
Petru - 074212221
----------------------------
What do you want to search for:
1 for telephone number
2 for name
0 to exit
0

Process returned 0 (0x0)   execution time : 43.182 s
Press any key to continue.
```

Write a program for a supermarket which is going to:

Take the information for the different products a supermarket sells and it will save the following information: -Brand of product -Type of product -Price -Stock Remaining -Your program must be able to search for products by name and by Type

```cpp
#include <iostream>

using namespace std;

class products{
private:
    string Brand;
    string Type;
    string Price;
    string Stock;
public:
    products(){
        Brand="Empty";
        Type="Empty";
        Price="0.00";
        Stock="0.00";
    }
    void setBrand(string b){Brand=b;}
    void setType(string t){Type=t;}
    void setPrice(string p){Price=p;}
    void setStock(string s){Stock=s;}
    string getBrand(){return Brand;}
    string getType(){return Type;}
    string getPrice(){return Price;}
    string getStock(){return Stock;}

};

int main()
{
    int ok=0;
    const int MAXPRODUCTS=3;
    products inventory[MAXPRODUCTS];
    string tBrand="", tType="", tPrice="", tStock="";
    string ask;
    int exist=0;
    for(int i=0;i<MAXPRODUCTS;i++){
        cout<<"Brand "<<i+1<<": ";
        cin>>tBrand;
        inventory[i].setBrand(tBrand);

        cout<<"Type "<<i+1<<": ";
        cin>>tType;
        inventory[i].setType(tType);

        cout<<"Price "<<i+1<<": ";
        cin>>tPrice;
        inventory[i].setPrice(tPrice);

        cout<<"Stock "<<i+1<<": ";
        cin>>tStock;
        inventory[i].setStock(tStock);
    }

    cout<<endl<<endl<<endl;
    cout<<"---------YOU HAVE SAVED THE FOLLOWING INFO ------------"<<endl;

    for(int i=0;i<MAXPRODUCTS;i++){
        cout<<inventory[i].getBrand()<<" - "<<inventory[i].getType()<<endl;
        cout<<inventory[i].getPrice()<<" - "<<inventory[i].getStock()<<endl<<endl;
    }

    cout<<"-------------------------------------------------------"<<endl;


    do{
        cout<<"What do you want to search for:"<<endl;
        cout<<"1 for Brand"<<endl;
        cout<<"2 for Type"<<endl;
        cout<<"0 to exit"<<endl;
        cin>>ok;
        exist=0;
        if(ok==1){
            cout<<"Please enter the type, the price or the stock: ";
            cin>>ask;
            cout<<"-------------------------------------------------------"<<endl;
            for(int i=0;i<MAXPRODUCTS;i++){
                if(ask==inventory[i].getType() || ask==inventory[i].getPrice() || ask==inventory[i].getStock()){
                    cout<<inventory[i].getBrand()<<" - "<<inventory[i].getType()<<endl;
                    cout<<inventory[i].getPrice()<<" - "<<inventory[i].getStock()<<endl;
                    cout<<"-------------------------------------------------------"<<endl;
                    exist=1;
                }
            }
            if(exist==0){
                cout<<"This item is not stored"<<endl;
                cout<<"-------------------------------------------------------"<<endl;
            }

        }
        else if(ok==2){
            cout<<"Please enter the brand, the price or the stock: ";
            cin>>ask;
            cout<<"-------------------------------------------------------"<<endl;
            for(int i=0;i<MAXPRODUCTS;i++){
                if(ask==inventory[i].getBrand() || ask==inventory[i].getPrice() || ask==inventory[i].getStock()){
                    cout<<inventory[i].getBrand()<<" - "<<inventory[i].getType()<<endl;
                    cout<<inventory[i].getPrice()<<" - "<<inventory[i].getStock()<<endl;
                    cout<<"-------------------------------------------------------"<<endl;
                    exist=1;
                }
            }
            if(exist==0){
                cout<<"This item is not stored"<<endl;
                cout<<"-------------------------------------------------------"<<endl;
            }
        }
    }while(ok>0);



    return 0;
}
```

```
Brand 1: Nike
Type 1: Cap
Price 1: 24.99$
Stock 1: 42
Brand 2: Samsung
Type 2: GalaxyA9
Price 2: 199$
Stock 2: 17
Brand 3: Logitech
Type 3: G435
Price 3: 69.99$
Stock 3: 31



---------YOU HAVE SAVED THE FOLLOWING INFO ------------
Nike - Cap
24.99$ - 42

Samsung - GalaxyA9
199$ - 17

Logitech - G435
69.99$ - 31

-------------------------------------------------------
What do you want to search for:
1 for Brand
2 for Type
0 to exit
1
Please enter the type, the price or the stock: 31
-------------------------------------------------------
Logitech - G435
69.99$ - 31
-------------------------------------------------------
What do you want to search for:
1 for Brand
2 for Type
0 to exit
2
Please enter the brand, the price or the stock: Samsung
-------------------------------------------------------
Samsung - GalaxyA9
199$ - 17
-------------------------------------------------------
What do you want to search for:
1 for Brand
2 for Type
0 to exit
0

Process returned 0 (0x0)   execution time : 72.727 s
Press any key to continue.
```

Write a program for a car dealership which is going to:

Take the information for the different cars and it will save the following information: -Plate number -Owner -Brand -Model -Your program must be able to search for cars by everything

```cpp
#include <iostream>

    using namespace std;

    class car
    {
    private:
        string brand;
        string model;
        string plateNum;
        string owner;
    public:
        void setBrand(string B)
        {
            brand=B;
        }
        void setModel(string M)
        {
            model=M;
        }
        void setPlateNum(string P)
        {
            plateNum=P;
        }
        void setOwner(string O)
        {
            owner=O;
        }

        string getBrand()
        {
            return brand;
        }
        string getModel()
        {
            return model;
        }
        string getPlateNum()
        {
            return plateNum;
        }
        string getOwner()
        {
            return owner;
        }

        car()
        {
            brand="Empty";
            model="Empty";
            plateNum="Empty";
            owner="Empty";
        }
    };

    void enterdata(car*& specs,int& MAXCARS, int& n){
        string temp, temp2;
        int tempn;
        int* tempspecs;

    //read the info from the user
        do{
                if(n>=MAXCARS){
                cout<<"Out of space!! How many more do you want to enter? (0 to exit)";
                cin>>tempn;
                if(tempn>0){
                    car* newSpecs = new car[MAXCARS+tempn];

                    for(int i=0;i<MAXCARS;i++){
                        newSpecs[i]=specs[i];
                    }
                    delete[] specs;
                    specs=newSpecs;
                    MAXCARS+=tempn;
                }
            }
            cout<<"---------- CAR "<<n+1<<" ----------"<<endl;

            cout<<"Enter brand: ";
            cin>>temp;
            specs[n].setBrand(temp);

            cout<<"Enter model: ";
            cin>>temp;
            specs[n].setModel(temp);

            cout<<"Enter plate number: "; // input is" LSP 203
            cin>>temp>>temp2;             //the ">>" operator reads up to the white space in a sentence
            temp=temp+" "+temp2;
            specs[n].setPlateNum(temp);

            cout<<"Enter the name of the owner: ";
            cin>>temp;
            specs[n].setOwner(temp);

            n++;

        }while(n<MAXCARS);
    }

    void displaydata(car specs[], int MAXCARS){
    cout<<endl<<endl;
        cout<<"---------- YOU HAVE SAVED ----------"<<endl<<endl;

        for(int i=0; i<MAXCARS; i++)
        {
            cout<<"Brand: "<<specs[i].getBrand()<<endl;
            cout<<"Model: "<<specs[i].getModel()<<endl;
            cout<<"Plate number: "<<specs[i].getPlateNum()<<endl;
            cout<<"Owner: "<<specs[i].getOwner()<<endl<<endl;
        }
    }

    void Brand(car specs[], int MAXCARS){
        string temp;
        cout<<"Which brand are you looking for: ";
        cin>>temp;
        cout<<"---------------------------------"<<endl;
        for(int i=0;i<MAXCARS;i++){
            if(specs[i].getBrand()==temp){
                cout<<"Brand: "<<specs[i].getBrand()<<endl;
                cout<<"Model: "<<specs[i].getModel()<<endl;
                cout<<"Plate number: "<<specs[i].getPlateNum()<<endl;
                cout<<"Owner: "<<specs[i].getOwner()<<endl<<endl;
            }
        }
    }

    void Model(car specs[], int MAXCARS){
        string temp;
        cout<<"Which model are you looking for: ";
        cin>>temp;
        cout<<"----------------------------------"<<endl;
        for(int i=0;i<MAXCARS;i++){
            if(specs[i].getModel()==temp){
                cout<<"Brand: "<<specs[i].getBrand()<<endl;
                cout<<"Model: "<<specs[i].getModel()<<endl;
                cout<<"Plate number: "<<specs[i].getPlateNum()<<endl;
                cout<<"Owner: "<<specs[i].getOwner()<<endl<<endl;
            }
        }
    }

    void Owner(car specs[], int MAXCARS){
        string temp;
        cout<<"Which owner are you looking for: ";
        cin>>temp;
        cout<<"---------------------------------"<<endl;
        for(int i=0;i<MAXCARS;i++){
            if(specs[i].getOwner()==temp){
                cout<<"Brand: "<<specs[i].getBrand()<<endl;
                cout<<"Model: "<<specs[i].getModel()<<endl;
                cout<<"Plate number: "<<specs[i].getPlateNum()<<endl;
                cout<<"Owner: "<<specs[i].getOwner()<<endl<<endl;
            }
        }
    }

    void PlateNumber(car specs[], int MAXCARS){
        string temp,temp2;
        cout<<"Which plate number are you looking for: ";
        cin>>temp>>temp2;
        temp=temp+" "+temp2;
        cout<<"----------------------------------"<<endl;
        for(int i=0;i<MAXCARS;i++){
            if(specs[i].getPlateNum()==temp){
                cout<<"Brand: "<<specs[i].getBrand()<<endl;
                cout<<"Model: "<<specs[i].getModel()<<endl;
                cout<<"Plate number: "<<specs[i].getPlateNum()<<endl;
                cout<<"Owner: "<<specs[i].getOwner()<<endl<<endl;
            }
        }
    }

    int main()
    {
        int MAXCARS=2; // variable for maxcars
        car* specs = new car[MAXCARS];
        int ok=0,n=0;

        do{
            cout<<"--------------------------"<<endl;
            cout<<"What do you want to do:"<<endl;
            cout<<"1 to enter data"<<endl;
            cout<<"2 to display data"<<endl;
            cout<<"3 to search by brand"<<endl;
            cout<<"4 to search by model"<<endl;
            cout<<"5 to search by owner"<<endl;
            cout<<"6 to search by plate number"<<endl;
            cout<<"0 to exit"<<endl;
            cin>>ok;

            if(ok==1){
                enterdata(specs, MAXCARS, n);
            }
            else if(ok==2){
                displaydata(specs, MAXCARS);
            }
            else if(ok==3){
                Brand(specs, MAXCARS);
            }
            else if(ok==4){
                Model(specs, MAXCARS);
            }
            else if(ok==5){
                Owner(specs, MAXCARS);
            }
            else if(ok==6){
                PlateNumber(specs, MAXCARS);
            }


        }while(ok>0);


        return 0;
    }
```

```
--------------------------
What do you want to do:
1 to enter data
2 to display data
3 to search by brand
4 to search by model
5 to search by owner
6 to search by plate number
0 to exit
1
---------- CAR 1 ----------
Enter brand: BMW
Enter model: 320i
Enter plate number: B 123
Enter the name of the owner: Alex
---------- CAR 2 ----------
Enter brand: Toyota
Enter model: RAV4
Enter plate number: CJ 45
Enter the name of the owner: Maria
--------------------------
What do you want to do:
1 to enter data
2 to display data
3 to search by brand
4 to search by model
5 to search by owner
6 to search by plate number
0 to exit
2


---------- YOU HAVE SAVED ----------

Brand: BMW
Model: 320i
Plate number: B 123
Owner: Alex

Brand: Toyota
Model: RAV4
Plate number: CJ 45
Owner: Maria

--------------------------
What do you want to do:
1 to enter data
2 to display data
3 to search by brand
4 to search by model
5 to search by owner
6 to search by plate number
0 to exit
3
Which brand are you looking for: BMW
---------------------------------
Brand: BMW
Model: 320i
Plate number: B 123
Owner: Alex

--------------------------
What do you want to do:
1 to enter data
2 to display data
3 to search by brand
4 to search by model
5 to search by owner
6 to search by plate number
0 to exit
1
Out of space!! How many more do you want to enter? (0 to exit)1
---------- CAR 3 ----------
Enter brand: AUDI
Enter model: A4
Enter plate number: IF 98
Enter the name of the owner: David
--------------------------
What do you want to do:
1 to enter data
2 to display data
3 to search by brand
4 to search by model
5 to search by owner
6 to search by plate number
0 to exit
6
Which plate number are you looking for: IF 98
---------------------------------
Brand: AUDI
Model: A4
Plate number: IF 98
Owner: David

--------------------------
What do you want to do:
1 to enter data
2 to display data
3 to search by brand
4 to search by model
5 to search by owner
6 to search by plate number
0 to exit
0

Process returned 0 (0x0)   execution time : 87.005 s
Press any key to continue.
```

Understanding arguments

```cpp
#include <iostream>
#include <cstring>
using namespace std;

int main(int argc, char* argv[]) //argc = argument count
{
    cout<<"You have entered "<<argc<<" arguments:"<<endl;

    //Using a while loop to iterate through arguments
    int i=1;
    while(i<argc)
    {
        cout<<"Argument "<<i+1<<": "<<argv[i]<<endl;
        if (strcmp(argv[i],"/h")==0)
        {
            //write code to show help
        }
        if (strcmp(argv[i],"/s")==0)
        {
            //write code to implement /s option
        }
        if (strcmp(argv[i],"/t")==0)
        {
            //write code to implement /t option
        }
    }
    return 0;
}
```

```
You have entered 1 arguments:

Process returned 0 (0x0)   execution time : 0.040 s
Press any key to continue.
```