2025-1-RO01-KA121-VET-000319082

**4IT Erasmus+Project, 2025-1-RO01-KA121-VET-000319082**

**Beneficiary: "Gheorghe Vranceanu" National College, Bacau**

**Sending organization: "Ferdinand I" National College, Bacau**

# MOBILITY PORTFOLIO

**Paphos, Cyprus**

**Mobility period 28.10.2025- 10.11.2025**

**Practice period: 29.10.2025-08.11.2025**

**RECEIVING COMPANY: LAZAROU ICT PROFESSIONALS**

**Practice tutor: Lazaros Lazarou**

**Participant: Grigoroaia Delia-Ilinca**

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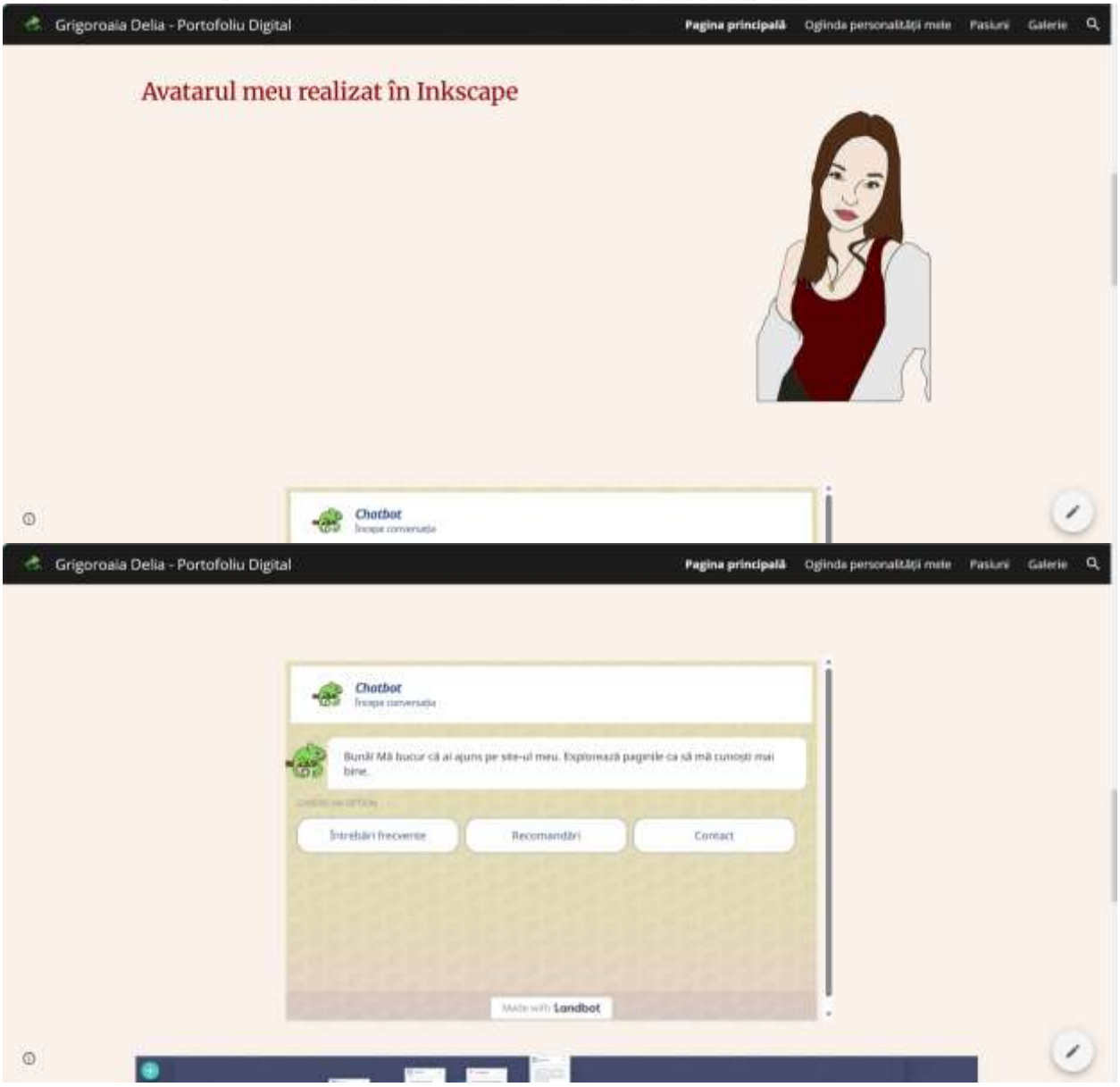
# Secțiunea 1:




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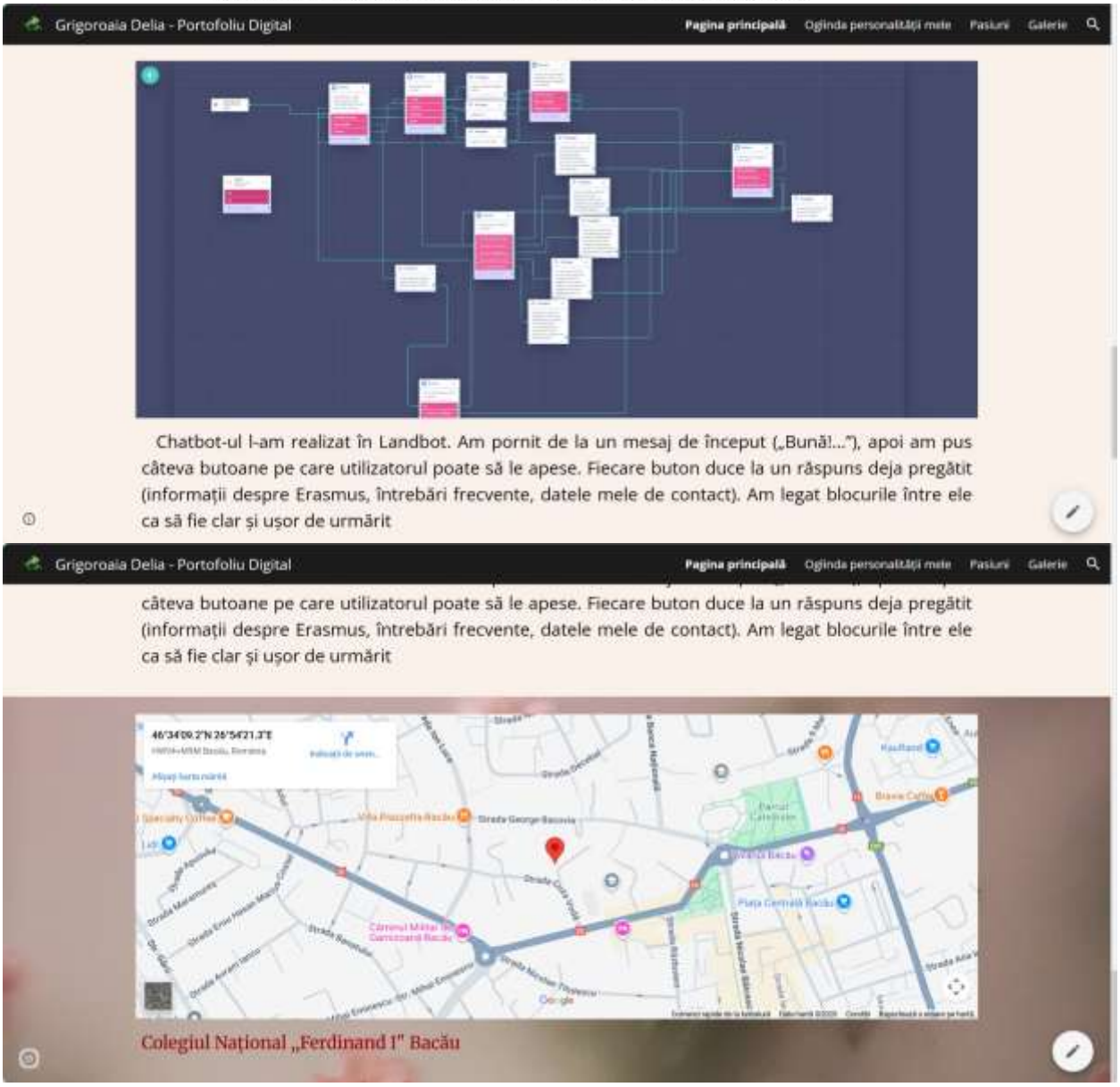
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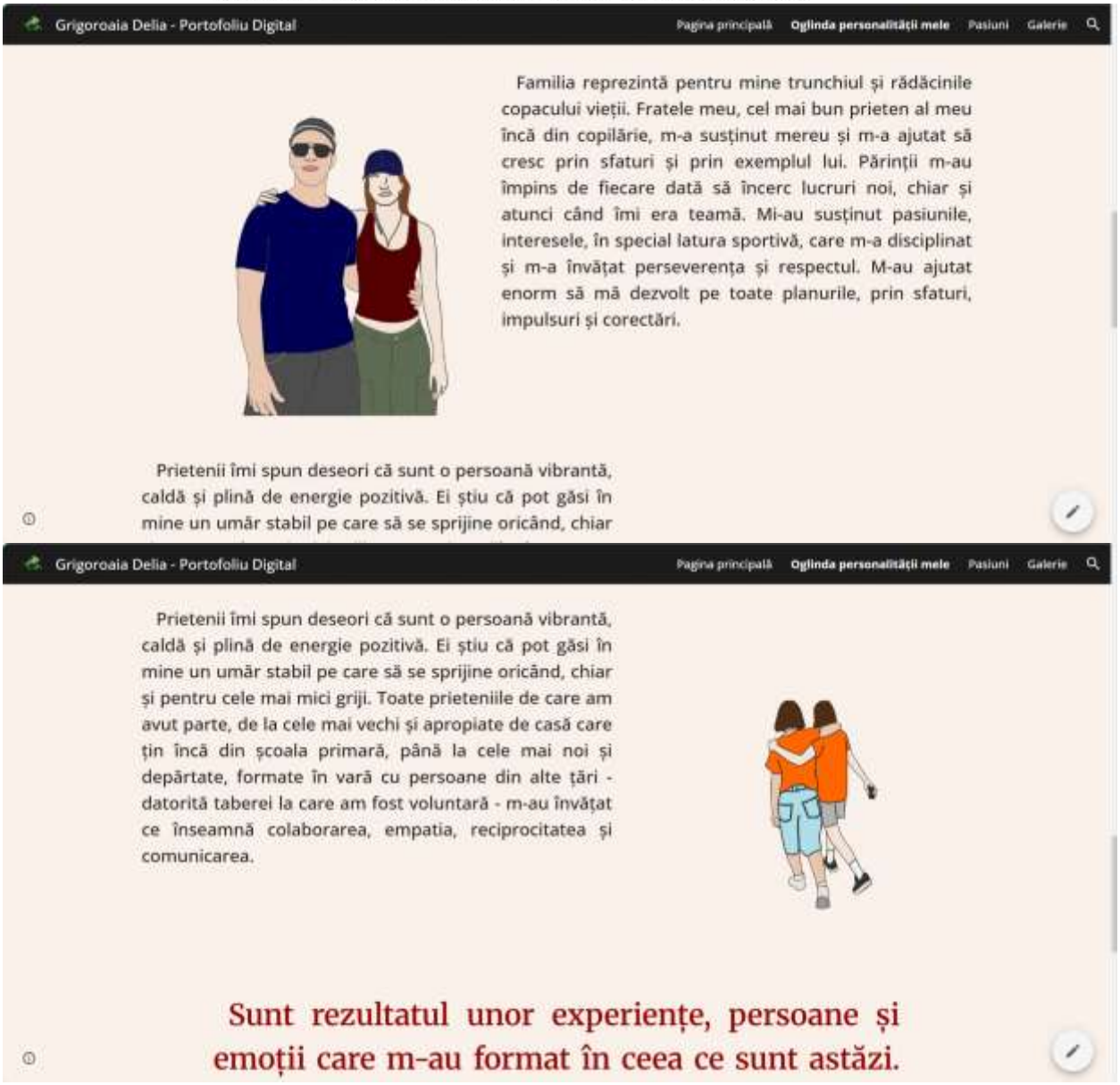



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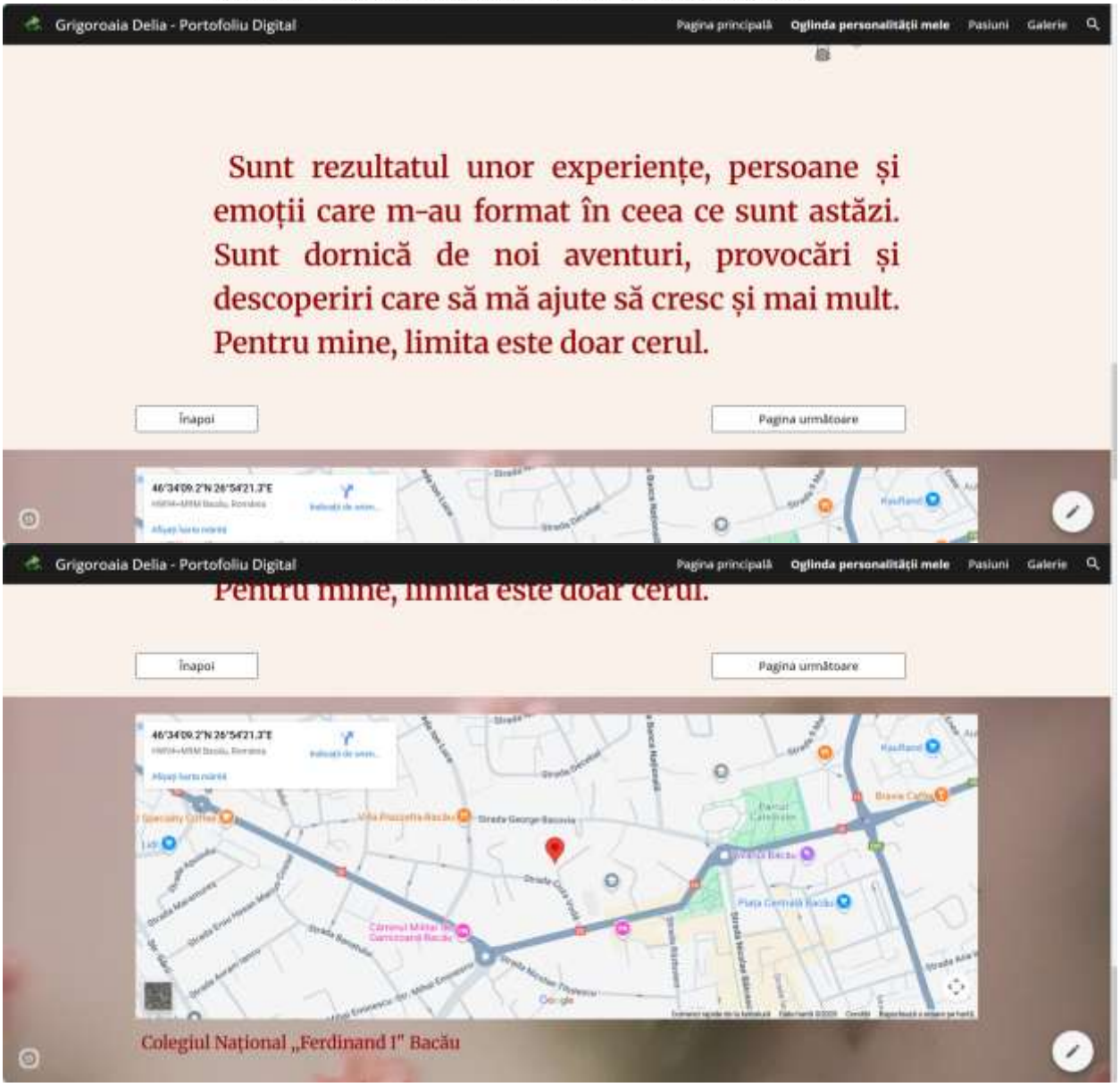



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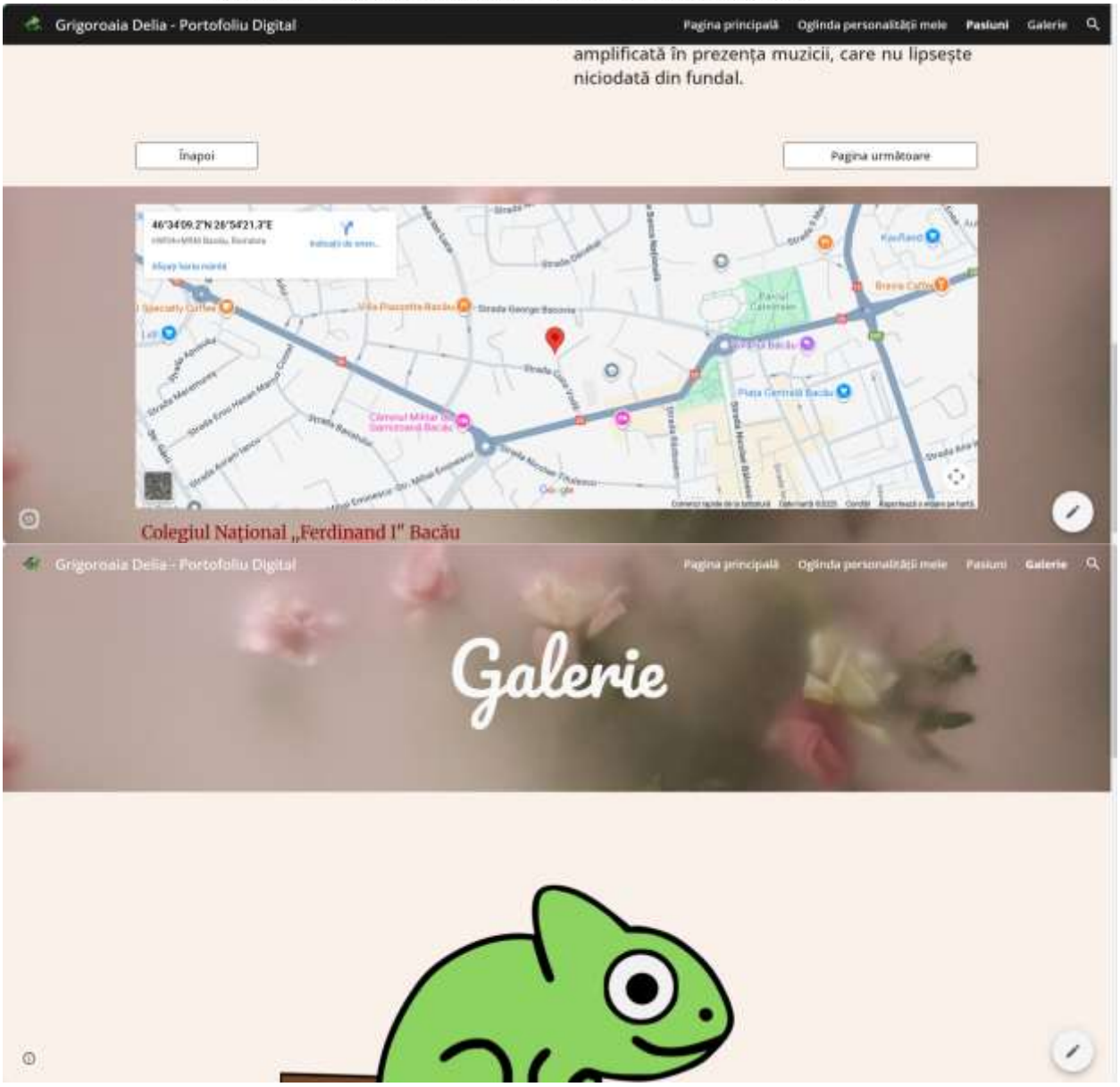
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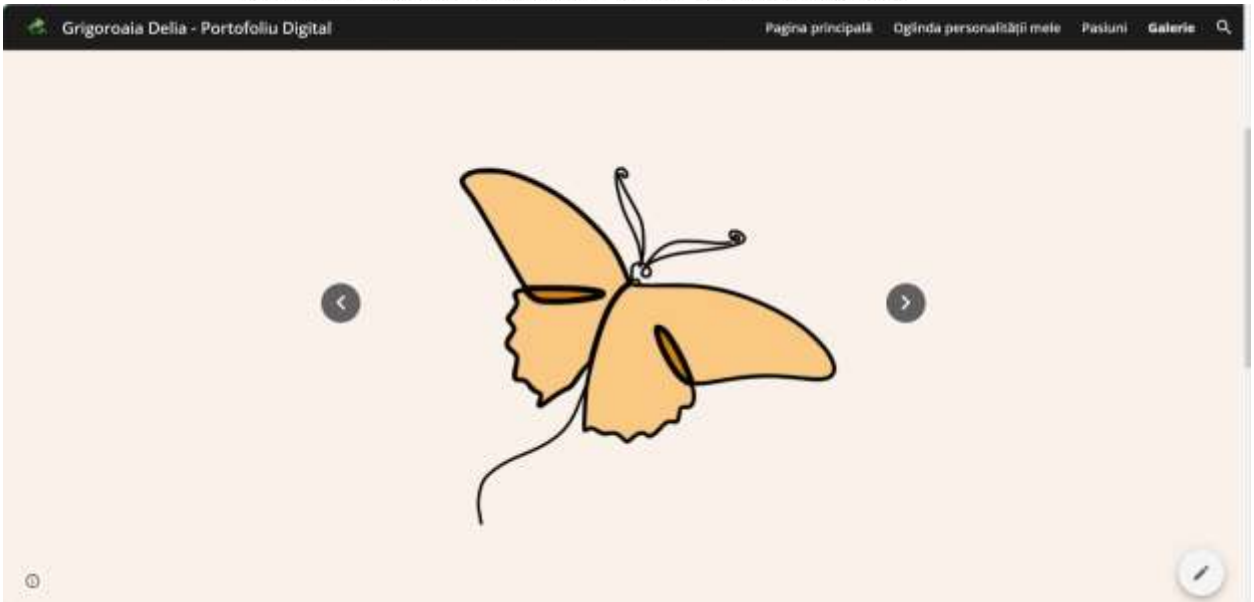


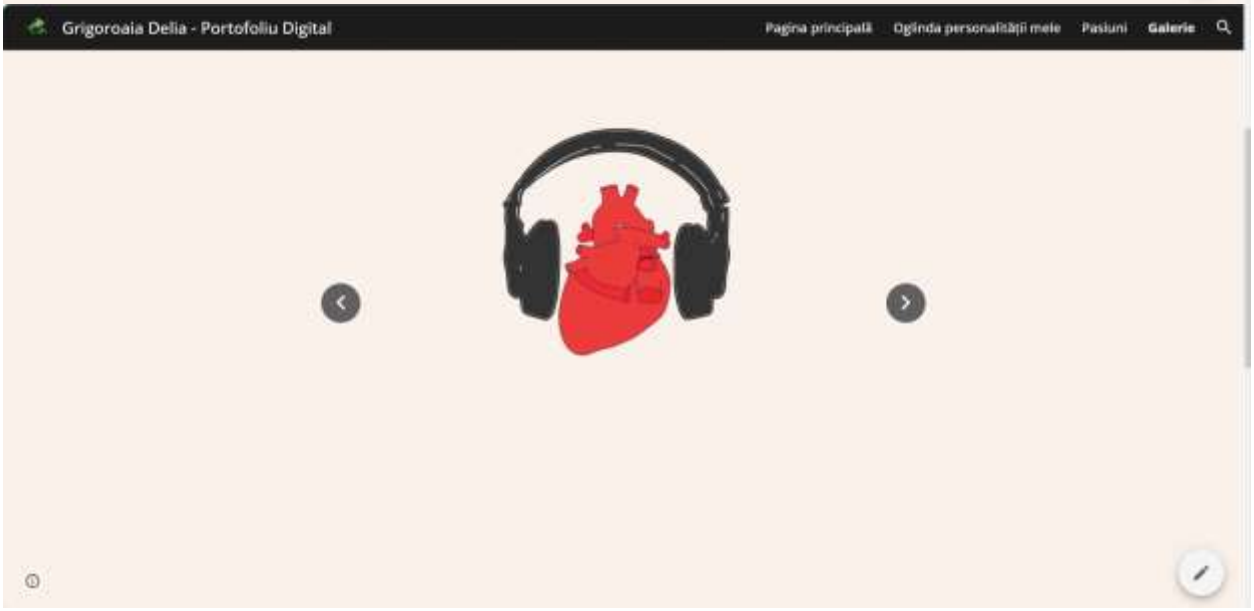




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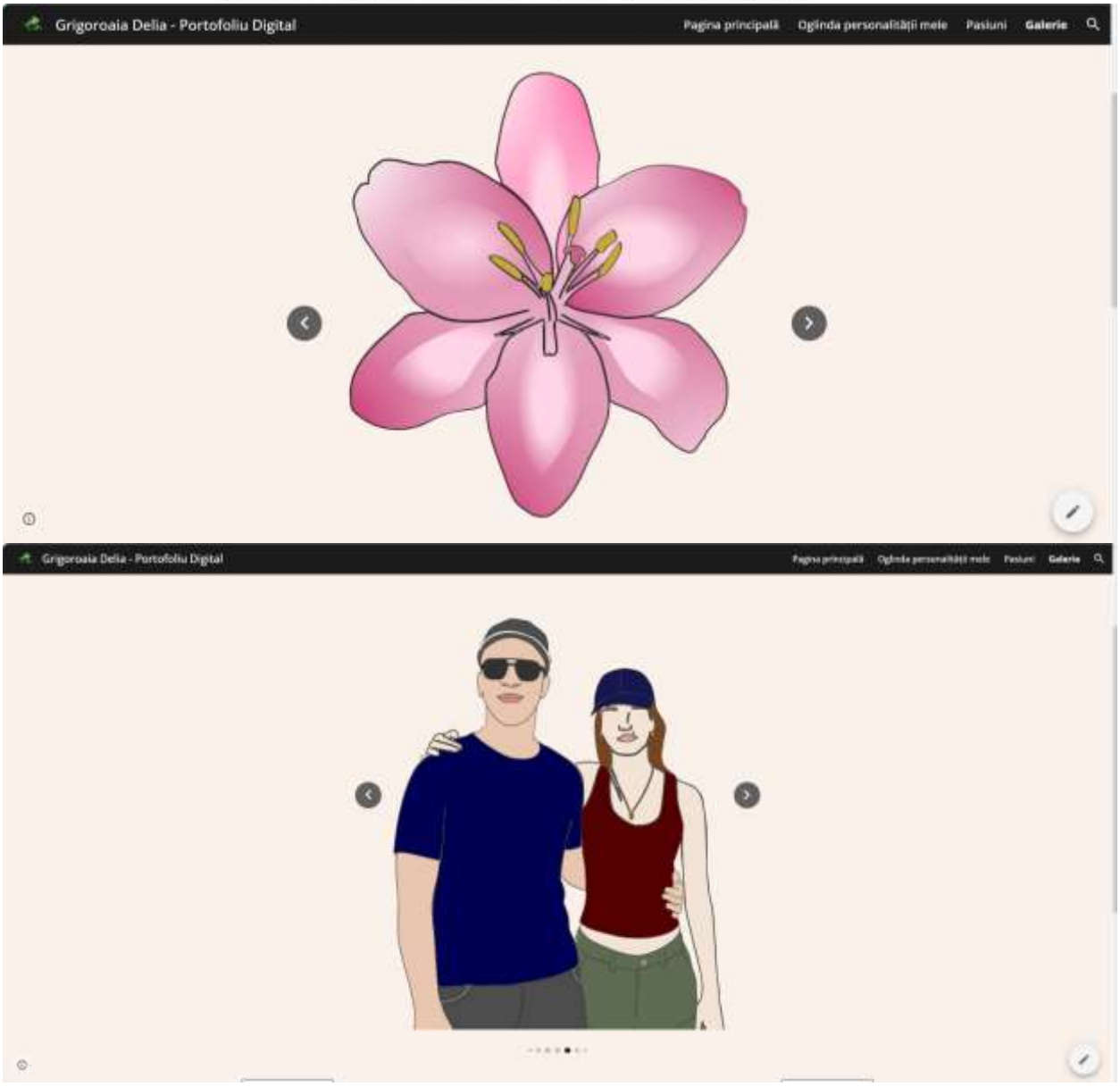
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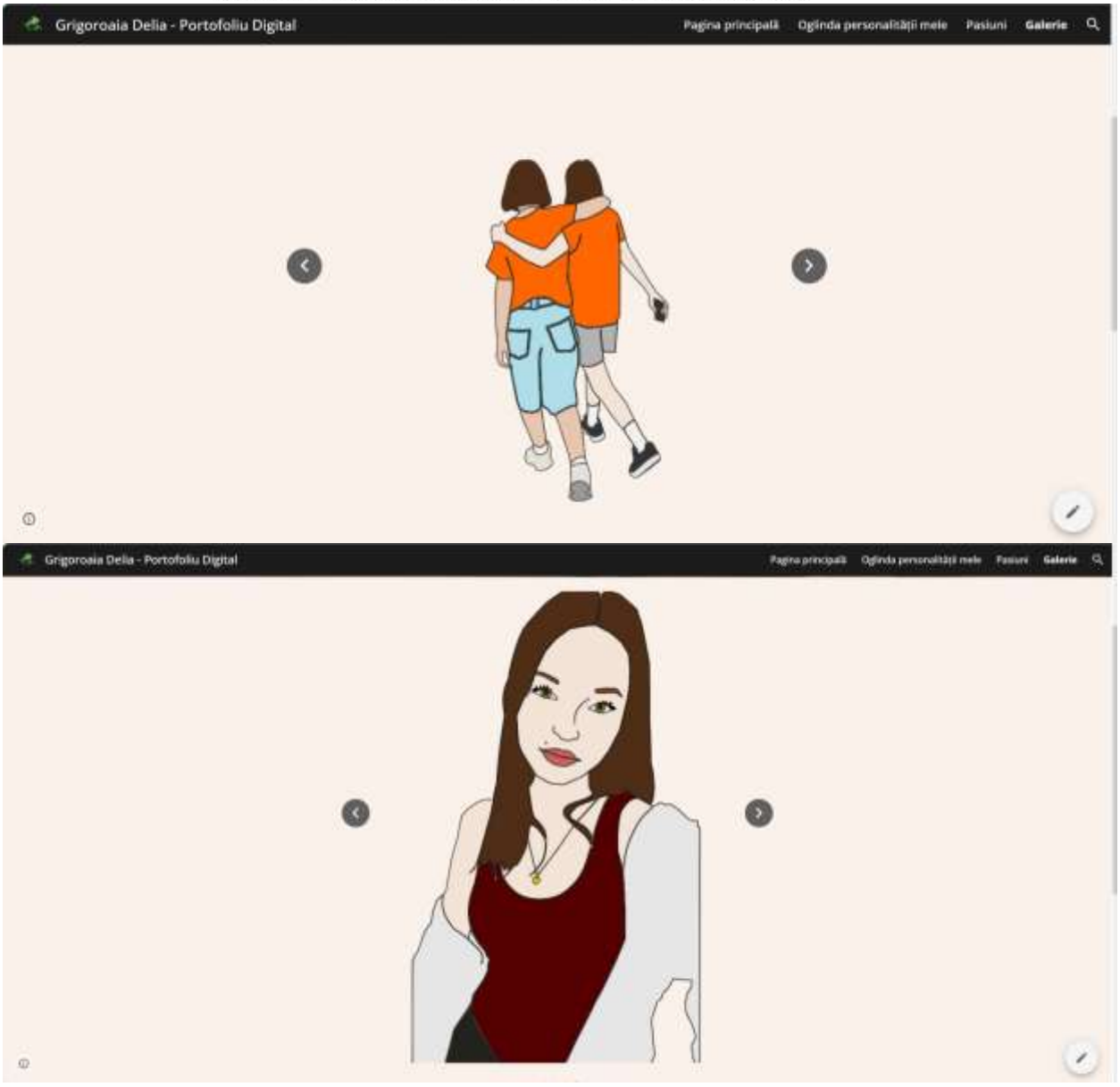
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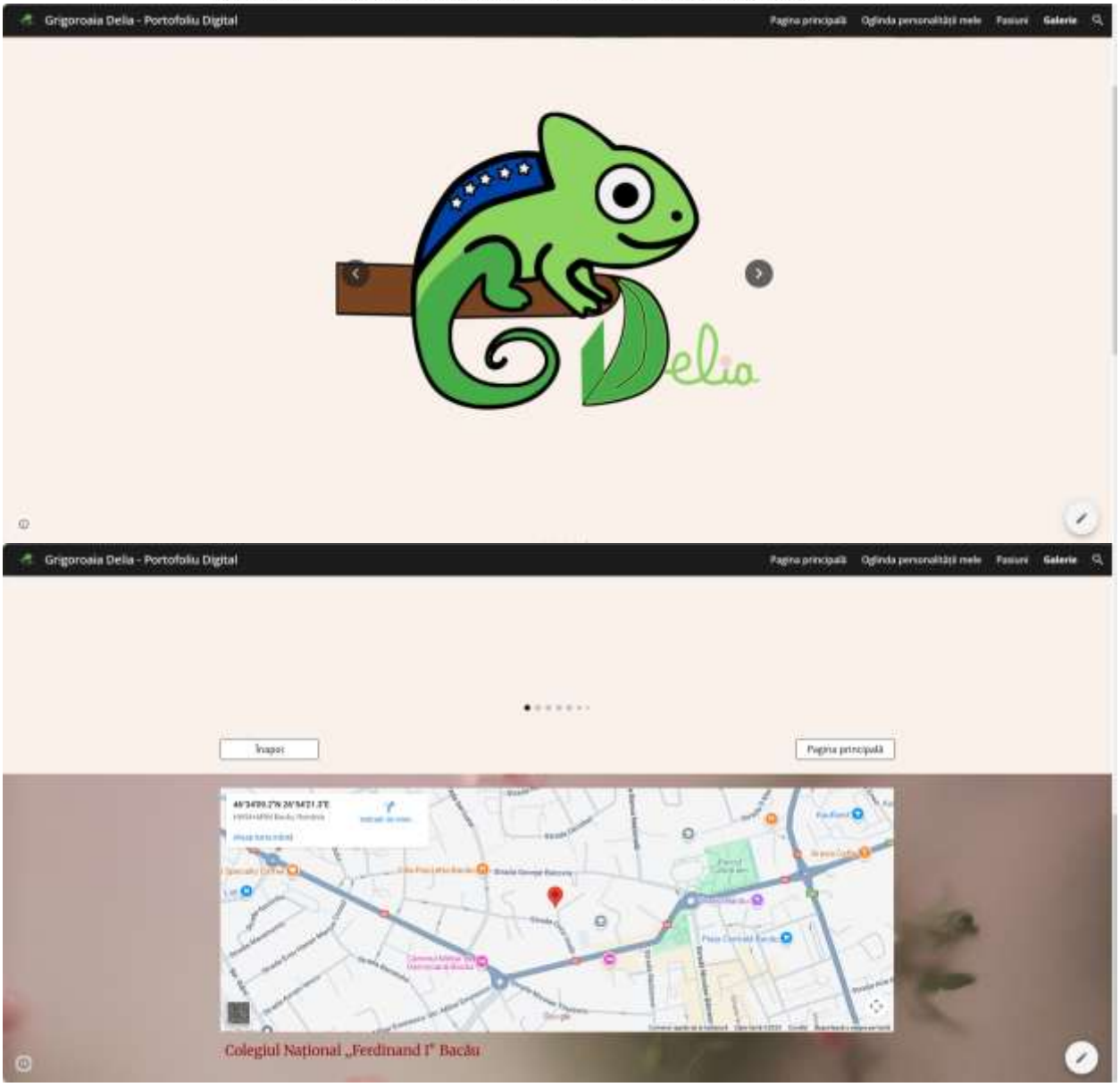



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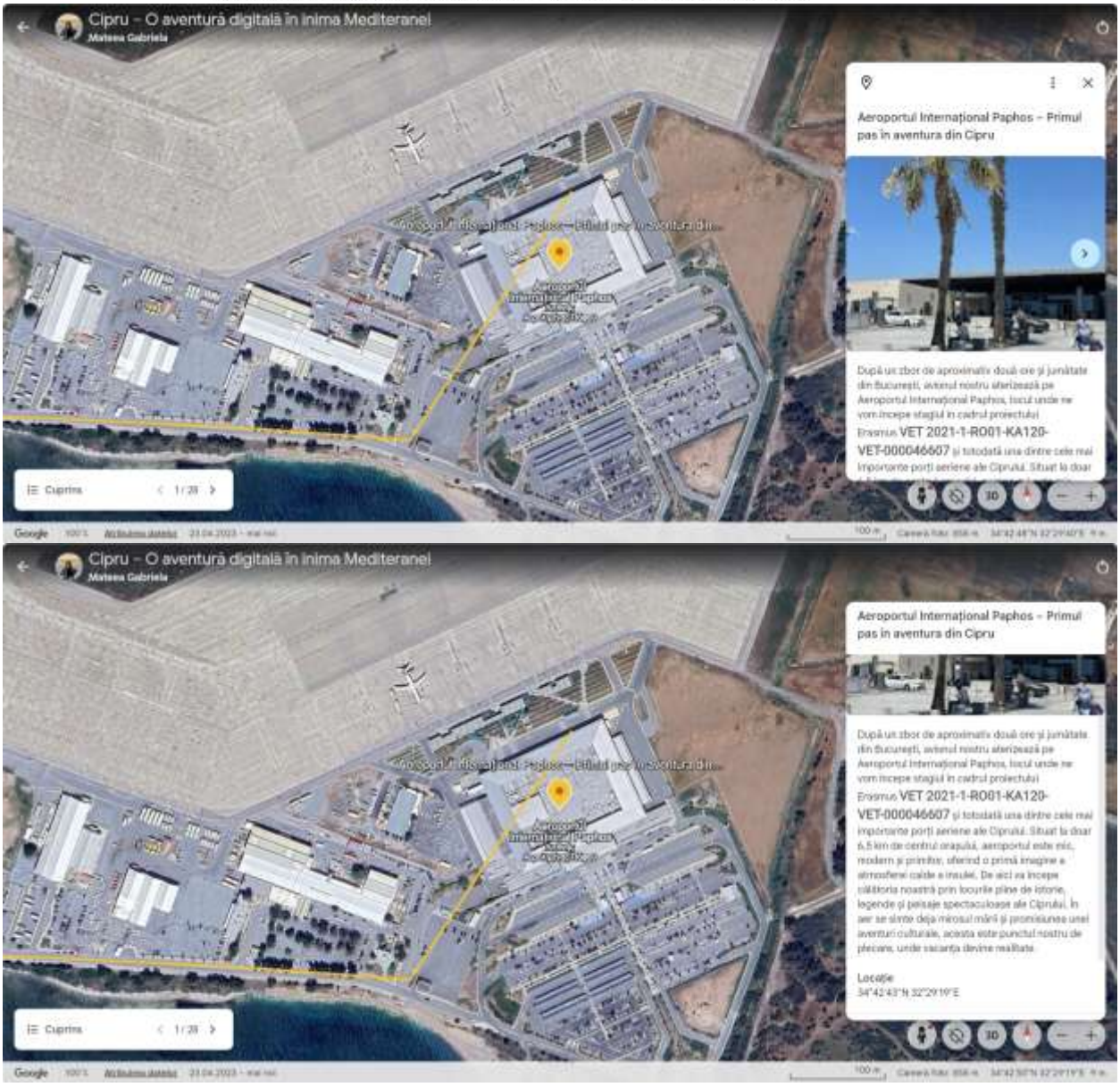



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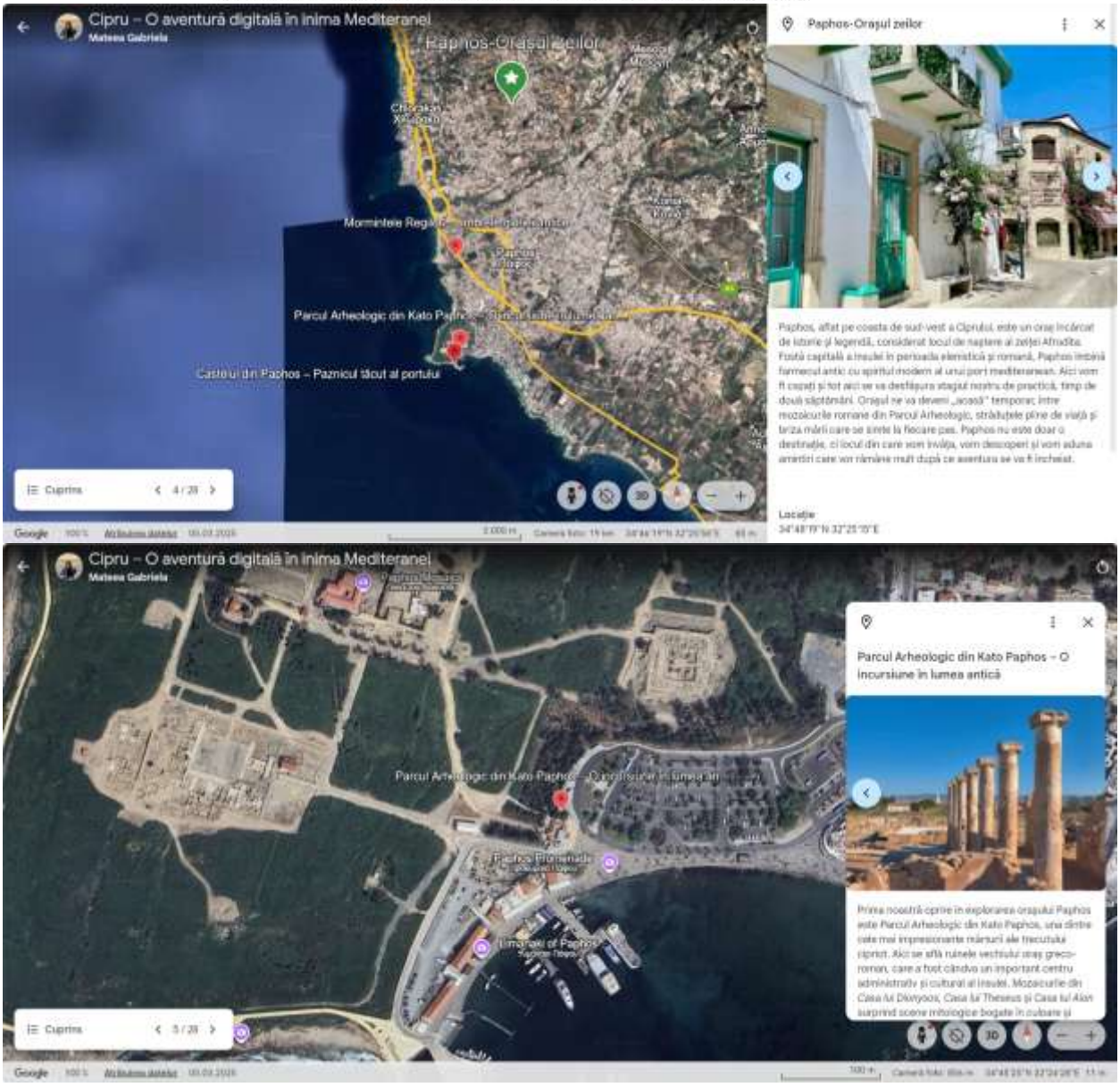



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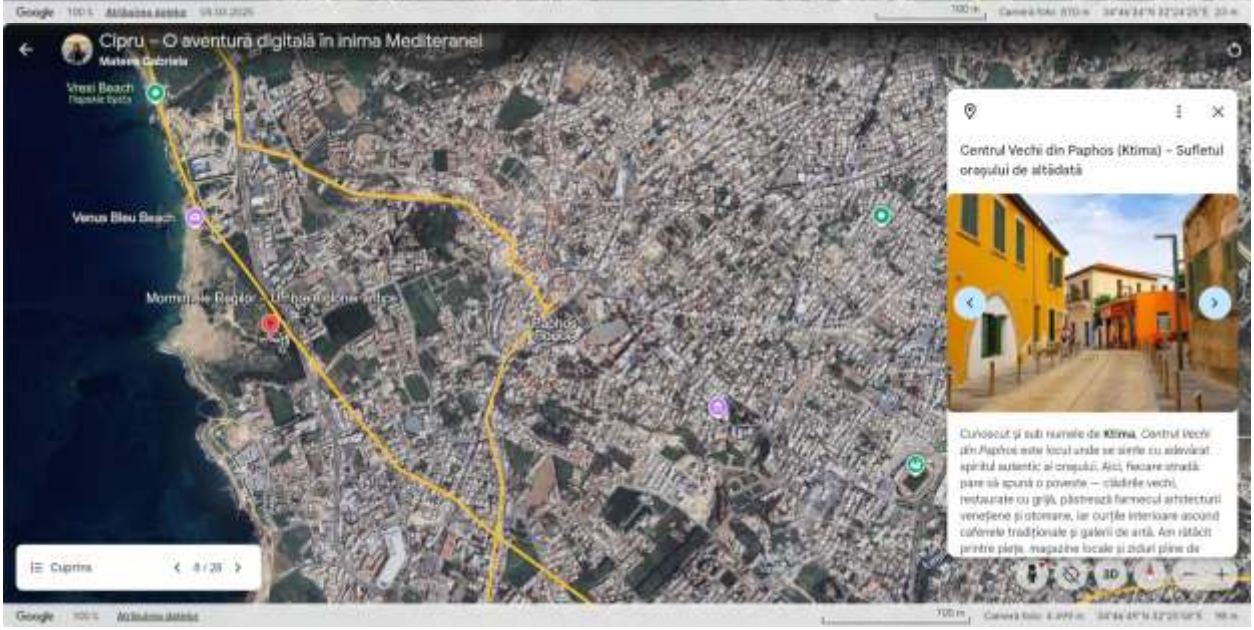
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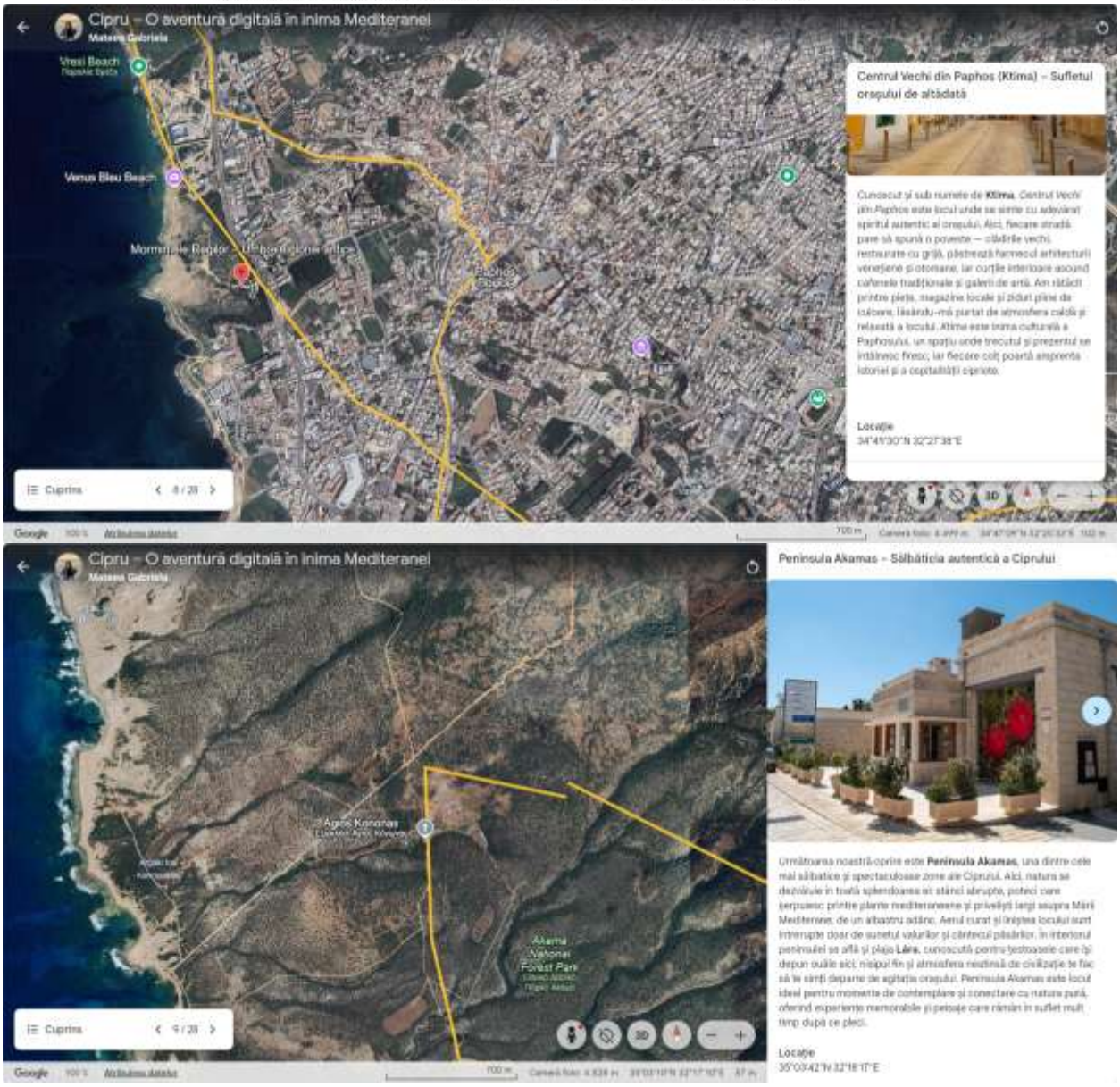




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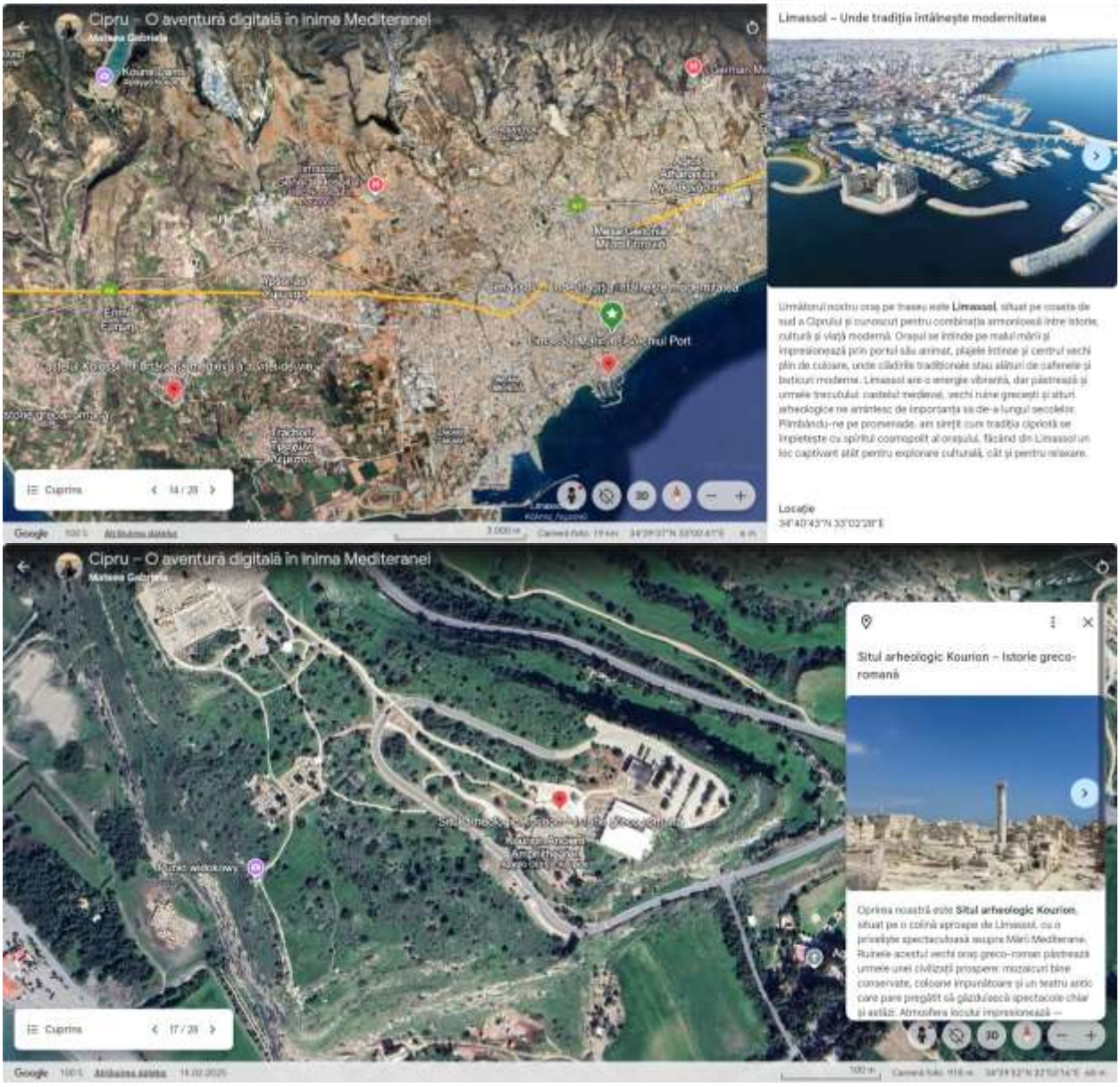



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# Secțiunea 2:

Următoarele proiecte în C++ au fost realizate cu ajutorul pointerilor, al vectorilor, al tablourilor dinamice și al tablourilor care își măresc dimensiunea și folosind argumente din linia de comandă.



```
#include <iostream>
using namespace std;
int main()
{
    int *exam1, *exam2, *exam3;
    int MAXEXAM=4, i=1;
    float *average, maxim1=0 , minim1=10, maxim2=0, minim2=10, maxim3=0, minim3=10, total1=0.0, total2=0.0, total3=0.0;
       exam1=new int [MAXEXAM];
        exam2=new int [MAXEXAM];
        exam3=new int [MAXEXAM];
        average=new float [MAXEXAM];

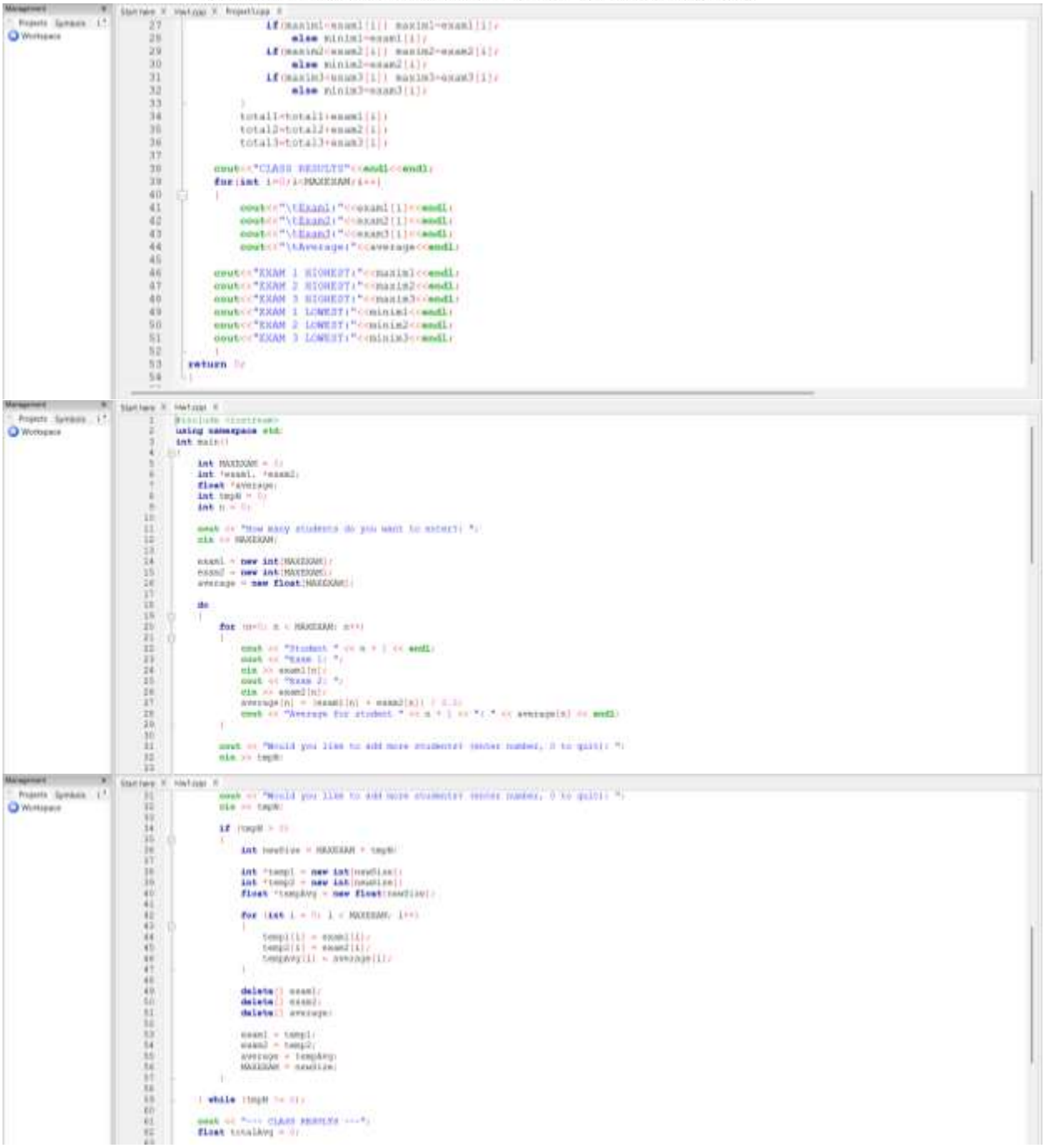

        for(i=0;i<MAXEXAM;i++)
        {
            cout<<"Student "<<i+1<<endl;
            cout<<"---------"<<endl;
            cout<<"Exam 1:";
            cin>>exam1[i];
            cout<<"Exam 2:";
            cin>>exam2[i];
            cout<<"Exam 3:";
            cin>>exam3[i];
            cout<<"---------"<<endl;
            average[i]=(exam1[i]+exam2[i]+exam3[i])/3.0;
            cout<<"Average for student"<<i+1<<":"<<average[i]<<endl;
            if(maxim1<exam1[i]) maxim1=exam1[i];
                else minim1=exam1[i];
```

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```
            delete[] exam2;
            delete[] average;

            exam1 = temp1;
            exam2 = temp2;
            average = tempAvg;
            MAXSTUDENTS = newSize;
        }

    } while (tempN != 0);

    cout << "--- CLASS RESULTS ---";
    float totalAvg = 0;

    for (int i = 0; i < MAXSTUDENTS; i++)
    {
        cout << "Student " << i + 1 << endl;
        cout << "Exam 1: " << exam1[i] << endl;
        cout << "Exam 2: " << exam2[i] << endl;
        cout << "Average: " << average[i] << endl;
        cout << "-------------------------" << endl;
        totalAvg += average[i];
    }

    cout << "Class average: " << totalAvg / MAXSTUDENTS << endl;

    delete[] exam1;
    delete[] exam2;
    delete[] average;

    return 0;
}
```



```
#include <iostream>
///objects///
using namespace std;

    class Student{

        private:
            string name;
            string lname;
            string phone;
            int age;
        public:
            void setName(string);
            void setPhone(string);
            void setlname(string);
            void setAge(int);
            string getName();
            string getPhone();
            string getlname();
            int getAge();
            };
 void Student::setName(string n)
 {
     name=n;
 }
 int main()
 {
     Student ast;
     Student myClas[30];
```



```
            string name;
            string lname;
            string phone;
            int age;
        public:
            void setName(string);
            void setPhone(string);
            void setlname(string);
            void setAge(int);
            string getName();
            string getPhone();
            string getlname();
            int getAge();
            };
 void Student::setName(string n)
 {
     name=n;
 }
 int main()
 {
     Student ast;
     Student myClas[30];
     ast.setName("Delia");
     ast.getName();
     myClass[0].setName("Maimna");
     myClass[0]
     return 0;
 }
```

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```cpp
#include <iostream>
#include <cstdlib>
///command line arguments///
///class string to integer///
// ...
///int initialize of a square///
using namespace std;
int main(int argc, char** argv)
{
    int side;

    if (argc < 2)
    {
        cout << "Command line arguments ignored! You have not given enough." << endl;
        cout << "Enter side: ";
        cin >> side;
        cout << "Perimeter: " << 4 * side << endl;
    }
    else
    {
        side = atoi(argv[1]);
        cout << "Perimeter: " << 4 * side << endl;
    }

    return 0;
}
```



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

/*
EXERCISE
Write a program which takes input from the user
the information for cars.
you need to save the following information:
model
brand
year
hp
When you are done reading print your information on the screen. Create a reading array. Print all of the information inputted.
*/

class Cars
{
private:
    string model;
    string brand;
    string year;
    float hp;
public:
    void setModel(string m){
        model=m;}
    void setBrand(string b){
        brand=b;}
    void setYear(string y){
        year=y;}
    void setHp(float h){
        hp=h;}

    string getModel(){return model;}
    string getBrand(){return brand;}
    string getYear(){return year;}
    float getHp(){return hp;}
```



```cpp
    string getYear(){return year;}
    float getHp(){return hp;}
};


int main()
{
    string model[20], brand[20], year[20];
    float hp[20];
    int i;
    int* temp, h;
    Cars test;

    temp = new int[2];

    cout<<"Welcome. How many cars would you like to save? ";
    cin>>n;


    for (i=1;i<=n;i++)
    {
    cout<<"Please input the name of the car model:";
    cin>>model[i];
    cout<<"Please input the the name of the car brand:";
    cin>>brand[i];
    cout<<"Please input the year of manufacturing:";
    cin>>year[i];
    cout<<"Please input the horsepower of the car:";
    cin>>hp[i];
    cout<<"Car saved!";
    test.setModel(model[i]);
    test.setBrand(brand[i]);
    test.setYear(year[i]);
    test.setHp(hp[i]);

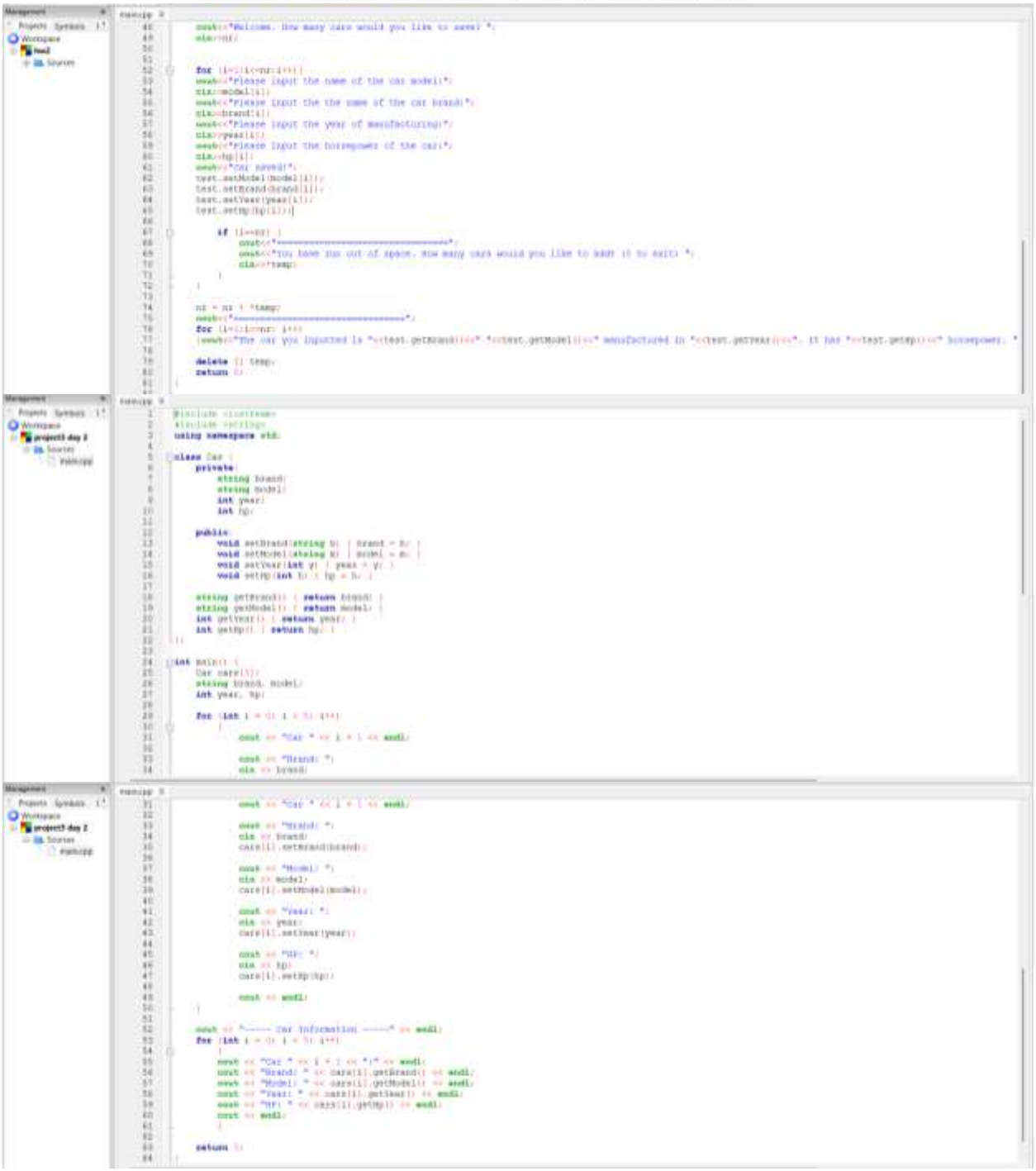
        if (i==n) {
            cout<<"------------------------------";
```

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```
int main() {
    cout<<"Welcome. How many cars would you like to save? ";
    cin>>nr;

    for (i=1;i<=nr;i++){
    cout<<"Please input the name of the car model:";
    cin>>model[i];
    cout<<"Please input the the name of the car brand:";
    cin>>brand[i];
    cout<<"Please input the year of manufacturing:";
    cin>>year[i];
    cout<<"Please input the horsepower of the car:";
    cin>>hp[i];
    cout<<"Car saved!";
    test.setModel(model[i]);
    test.setBrand(brand[i]);
    test.setYear(year[i]);
    test.setHp(hp[i]);

        if (i==nr) {
            cout<<"--------------------------------";
            cout<<"You have run out of space. How many cars would you like to add it to exit? ";
            cin>>temp;
        }
    }

    nr = nr + temp;
    cout<<"--------------------------------";
    for (i=1;i<=nr; i++){
    cout<<"The car you inputted is "<<test.getBrand(i)<<" "<<test.getModel(i)<<" manufactured in "<<test.getYear(i)<<". It has "<<test.getHp(i)<<" horsepower. "

    delete [] temp;
    return 0;
}
```

```
#include <iostream>
#include <string>
using namespace std;

class Car {
    private:
        string brand;
        string model;
        int year;
        int hp;

    public:
        void setBrand(string b) { brand = b; }
        void setModel(string m) { model = m; }
        void setYear(int y) { year = y; }
        void setHp(int h) { hp = h; }

    string getBrand() { return brand; }
    string getModel() { return model; }
    int getYear() { return year; }
    int getHp() { return hp; }
};

int main() {
    Car cars[5];
    string brand, model;
    int year, hp;

    for (int i = 0; i < 5; i++)
        {
            cout << "Car " << i + 1 << endl;

            cout << "Brand: ";
            cin >> brand;
```

```
            cout << "Car " << i + 1 << endl;

            cout << "Brand: ";
            cin >> brand;
            cars[i].setBrand(brand);

            cout << "Model: ";
            cin >> model;
            cars[i].setModel(model);

            cout << "Year: ";
            cin >> year;
            cars[i].setYear(year);

            cout << "HP: ";
            cin >> hp;
            cars[i].setHp(hp);

            cout << endl;
    }

    cout << "----- Car Information -----" << endl;
    for (int i = 0; i < 5; i++)
        {
        cout << "Car " << i + 1 << ":" << endl;
        cout << "Brand: " << cars[i].getBrand() << endl;
        cout << "Model: " << cars[i].getModel() << endl;
        cout << "Year: " << cars[i].getYear() << endl;
        cout << "HP: " << cars[i].getHp() << endl;
        cout << endl;
        }

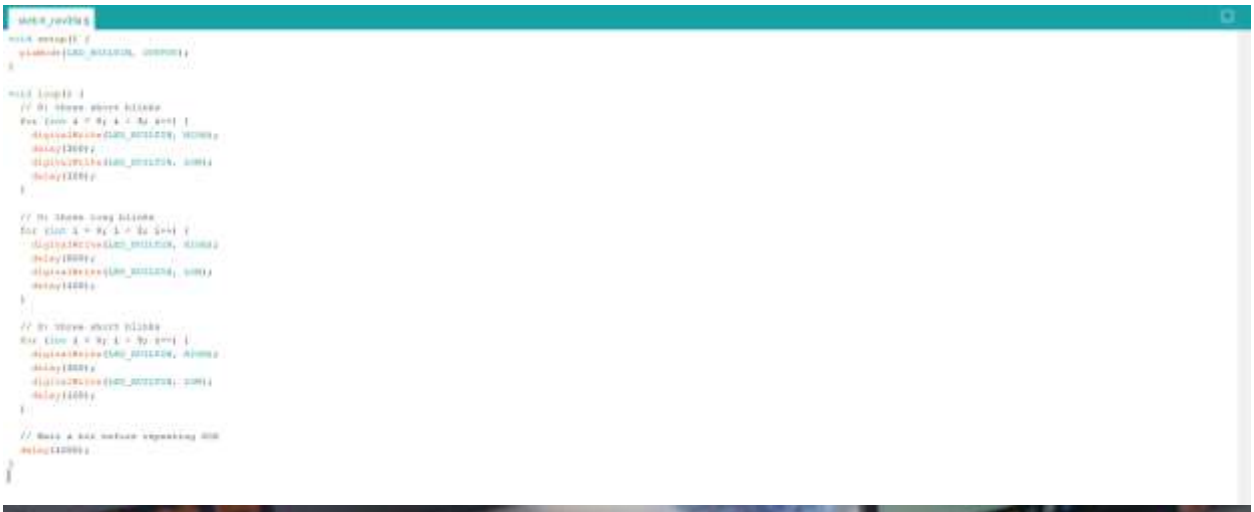
    return 0;
}
```

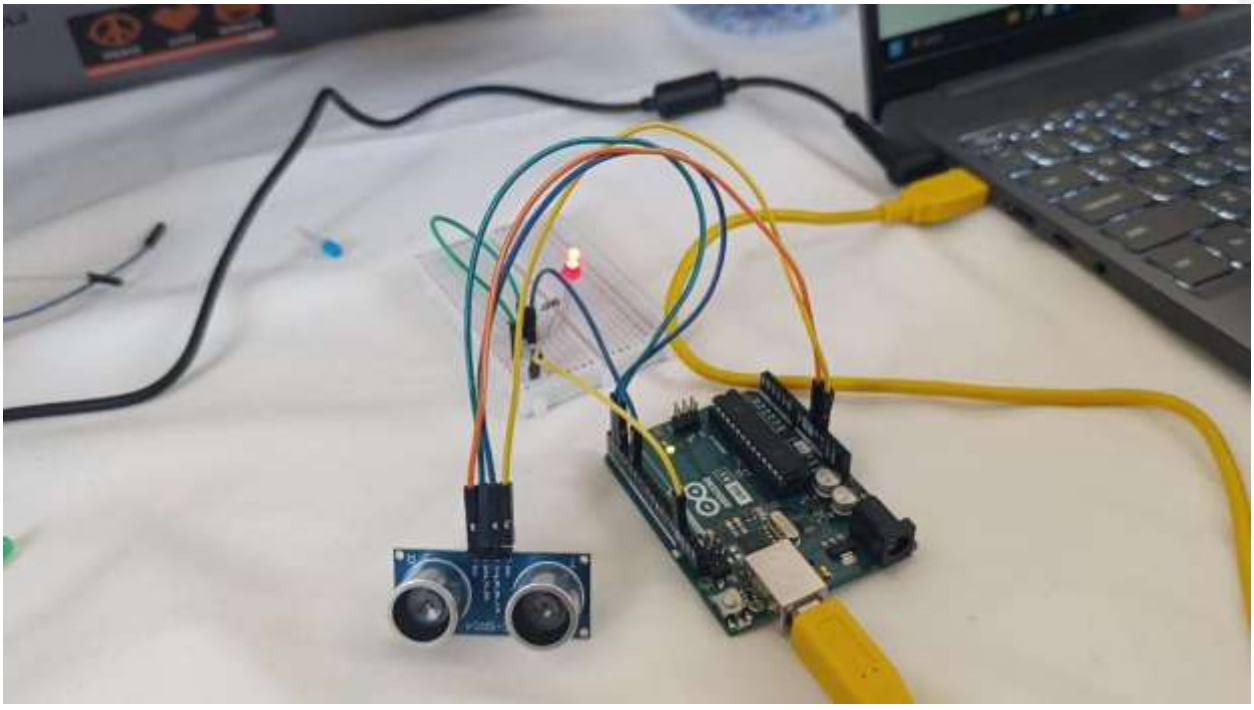
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# Secțiunea 3:

La Arduino am utilizat LED-uri, rezistențe, fire, un senzor de distanță, un senzor de apă, un buzzer, un ecran LCD, un breadboard și placa Arduino.

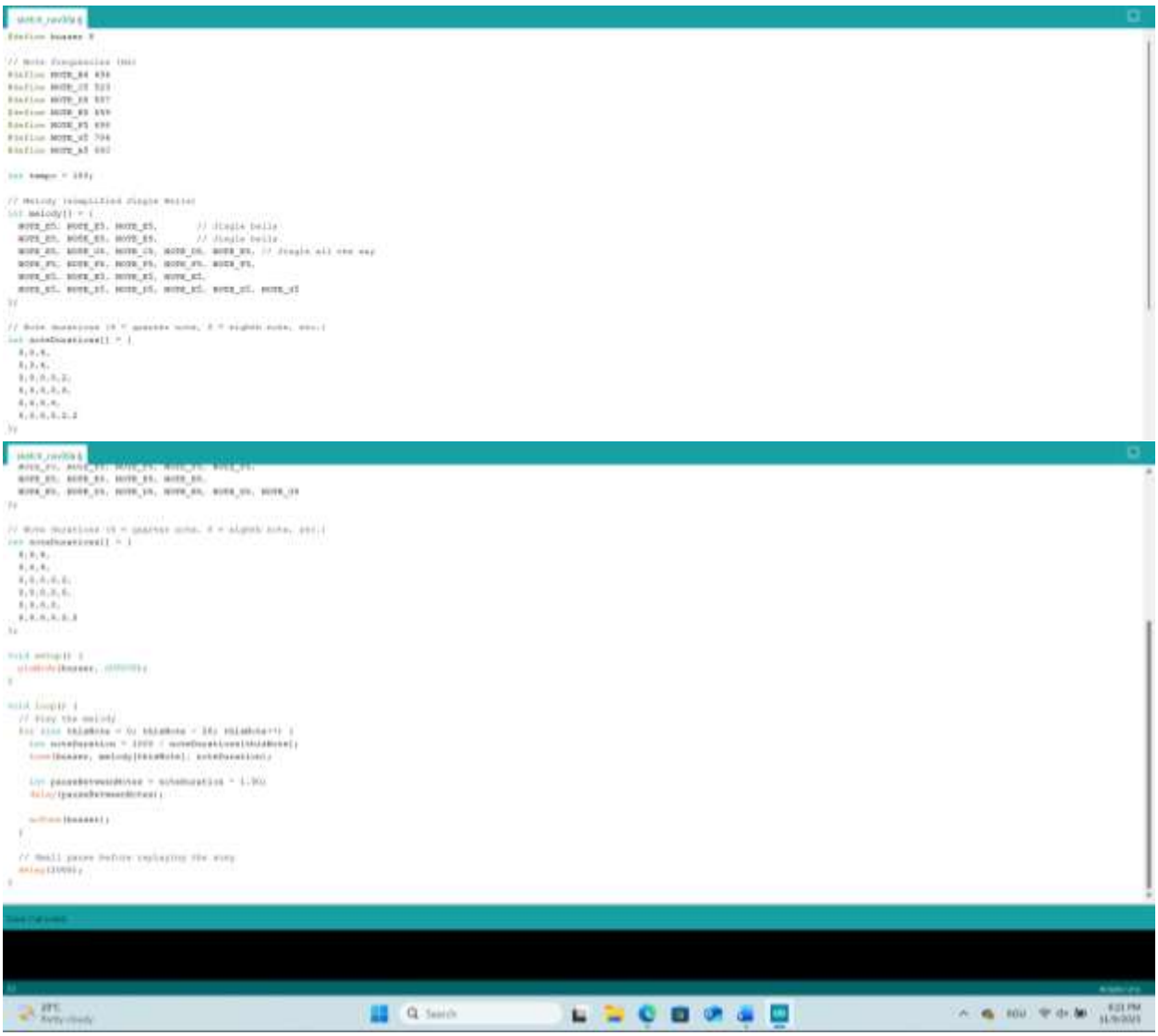




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```
sketch_nov09a§

const int sensorDigitalPin = 4;  // sensor digital output pin
const int ledPin = 5;            // LED pin

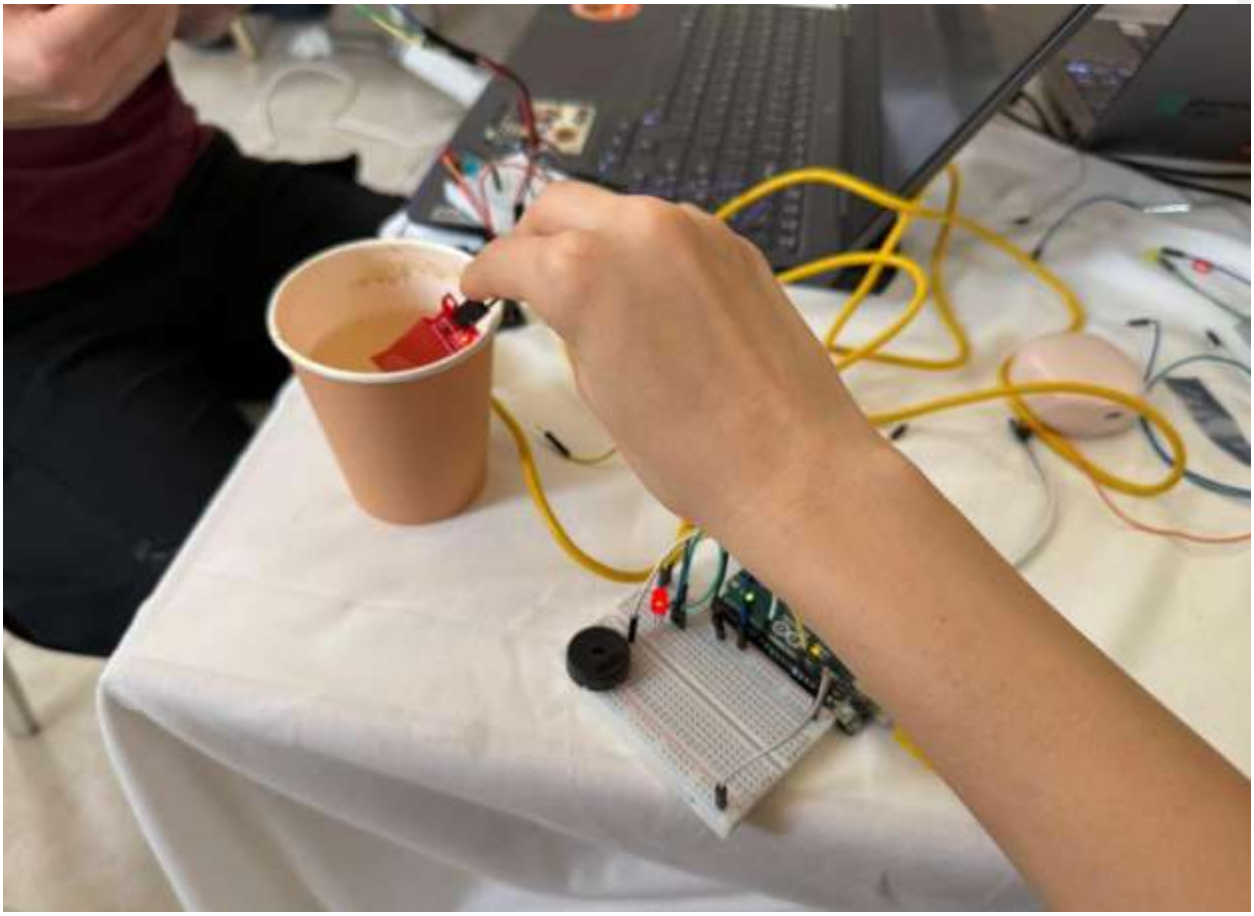
int sensorValue = 0;  // variable to store sensor reading
int threshold = 500;  // adjust this depending on your sensor and setup

void setup() {
  pinMode(ledPin, OUTPUT);
  pinMode(sensorDigitalPin, INPUT);
  Serial.begin(9600);
}

void loop() {
  sensorValue = analogRead(sensorDigitalPin);  // read sensor value
  Serial.print("Water Sensor Value: ");
  Serial.println(sensorValue);

  // If the reading is above the threshold, it means water is detected
  if (sensorValue > threshold) {
    digitalWrite(ledPin, HIGH);  // turn on LED
  } else {
    digitalWrite(ledPin, LOW);   // turn off LED
  }

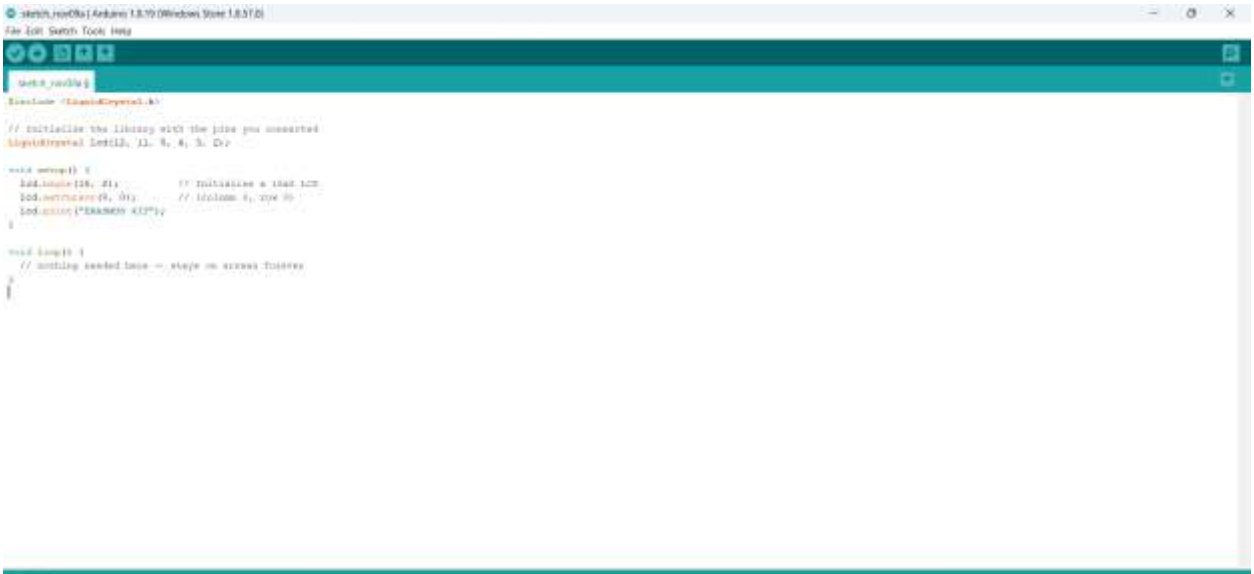
  delay(500);  // short delay for stability
}
```

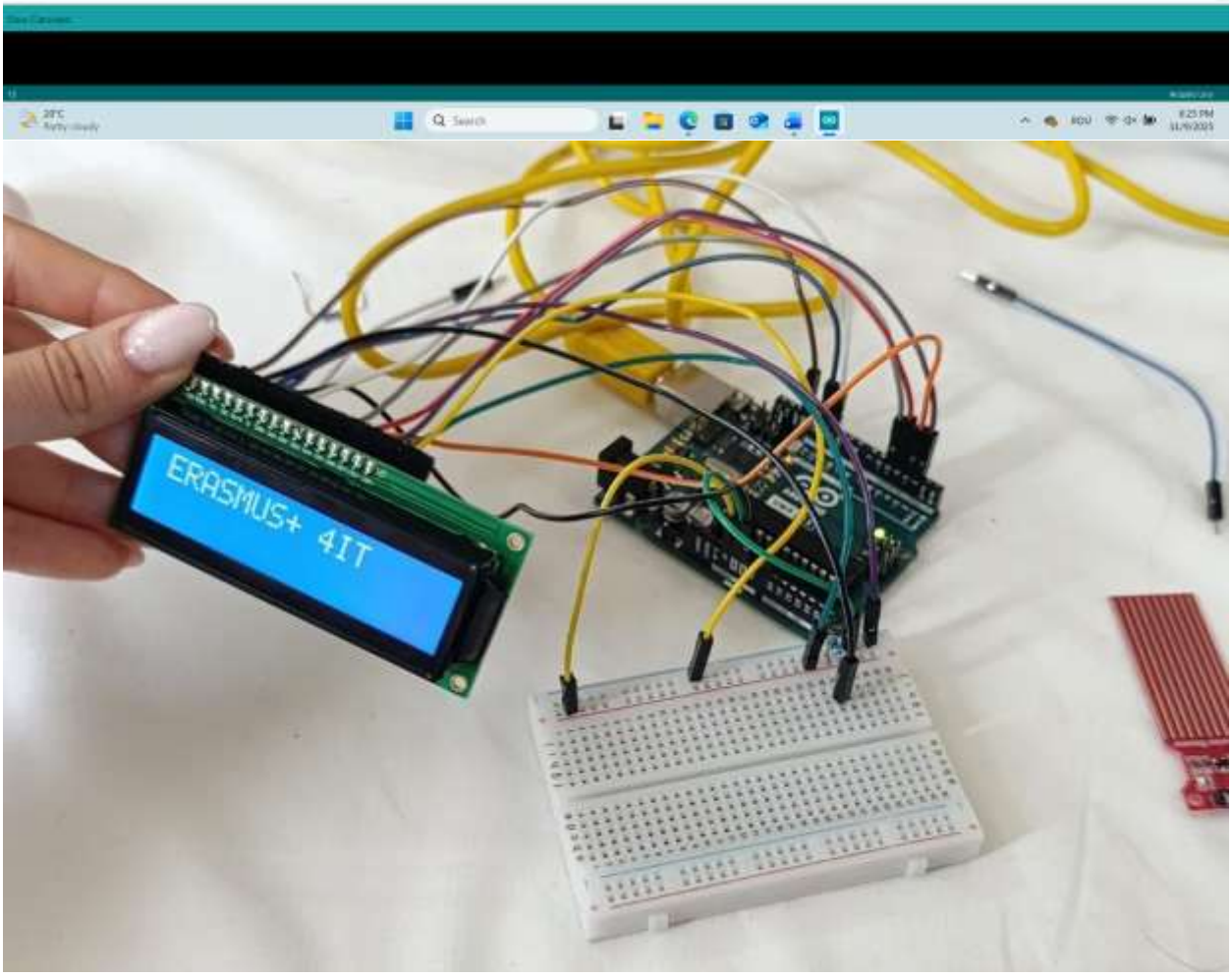


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