2ND AIN SHAMS COMPUTER VISION COMPETITION

PSEUDOCODE CONVERTER

OVERVIEW

1. Problem definition

When an innovative person has an idea and don't know how to implement it because of programming skill problem what can he do ?!!

When you are in hurry and write some lines describing what your program will do and want a quick implementation …

We have the solution ☺

2. Project description

An application which convert a simple pseudecode lines scanned from an image to a programming language such as C++ or Python or other language using python and image processing libraries .

3. Project implementation plan

*The project will be implemented through **four** main stages .*

1. ***Image acquisition and preprocessing***

- *Scanning the image containing the required pseuodocode to convert .*
- *Transform the scanned image to binary image , make noise rejection and all the needed image preprocessing .*

2. ***Extracting the text from the scanned image***

- *Determine the layout of the image .*
- *Apply the OCR 'Optical Character Recognition' algorithm to extract the pseudocode lines .*

3. Converting the pseudocode text to a programming implementation

- *Parse and analyze the extracted text .*
- *Convert each line with the corresponding code with the selected programming language .*
- *Integrate all the converted code to form a program illustrate the goal of the pseudocode .*

4. User interface with a web application

- *Implement a web application where you can :*
  - *upload your image*
  - *write pseudocode lines in a specified text box*
- *Display the output code .*
- Why web not android ? *to allow users to access the application without downloading any software .*

4. Team members roles

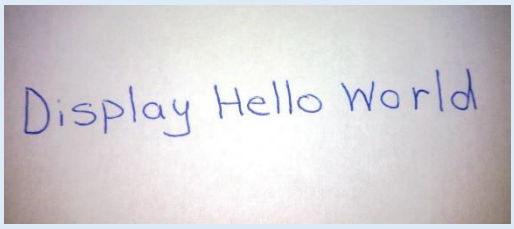
As it is the initial phase and we still don't know the complexity of each stage so , we will divide these four stages on the team members as all the team will work with an equally divided load .

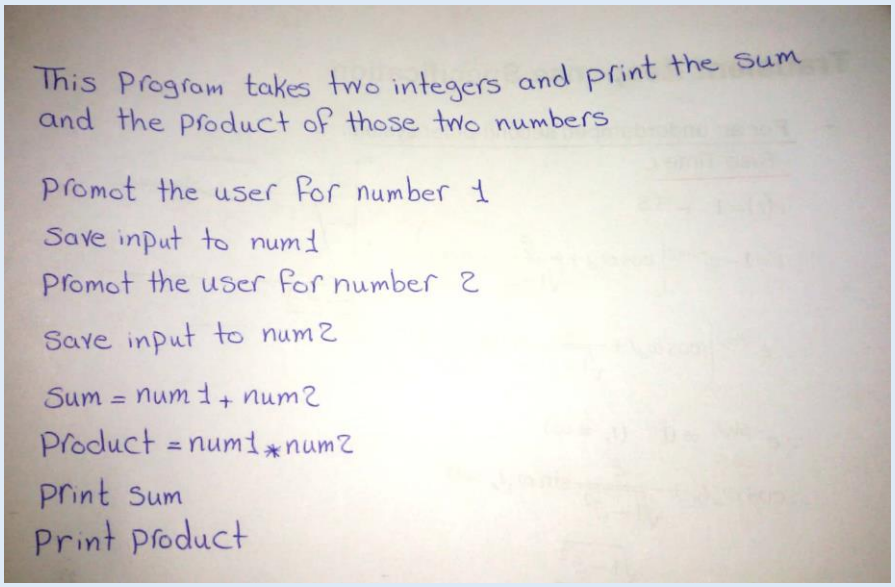
5. Extra features to be added if it is possible

Integrate the application with an online complier to execute the code .

6. Image samples

Samples of input image :





Sample of output :

Python Code:

```
#This Program takes two integers and print the sum and the product of those numbers

num1 = int(input('Enter number 1:'));

num2 = int(input('Enter number 2:'));

sum = num1 + num2;

product = num1 * num2;

print (sum);

print(product);
```