2024

NeuralGrader

Quiz Checking Using LLMs

Web App

zohair.onrender.com

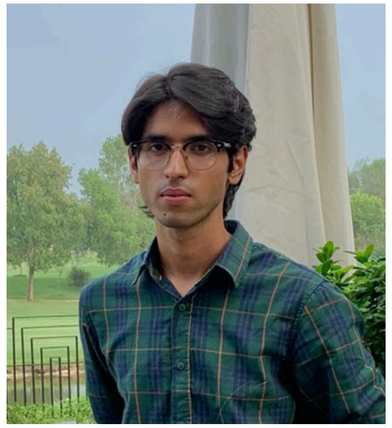
About Us

We are intrepid senior-year undergraduates at NUST, fueled by our fervent passion for the wonders of AI.

Our Team —

Muhammad Anser

Zuha Fatima



Zohair Shakeel

Problem

Assessing handwritten quizzes or assignments, can be a laborious endeavor, fraught with the potential for human error—especially when navigating diverse formats for example Python scripts, biological illustrations, and intricate circuit designs.

A desire arises for a tool that can assess and appraise various elements, identifying errors without necessitating specialized knowledge in any particular domain.

Solution

NeuralGrader, a user-friendly web application that automates quiz evaluation by utilizing advanced Large Language Models (LLMs) tailored for text and diagram analysis.

NeurallGrader conjures a remarkable time-saving spell, slashing efforts by over 90 percent. Best of all, it is a free enchantment and a premier alternative.

Essential tools / premier offerings

- Frontend: HTML, Flask (UI/UX optimized for ease of use).
- Backend: Google-Gemini-Flash-1.5-Pro via Google Cloud API for OCR.
- LLMs: Integrated thoughtfully handpicked LLMs for diverse quiz types like Python programs, biological diagrams, and circuit logic.

Workflow

Upload Quiz

Simply snap a photo of any quiz or assignment you'd like to assess and upload it with ease.

Write Prompot

While it's optional, feel free to customize it to suit your needs.

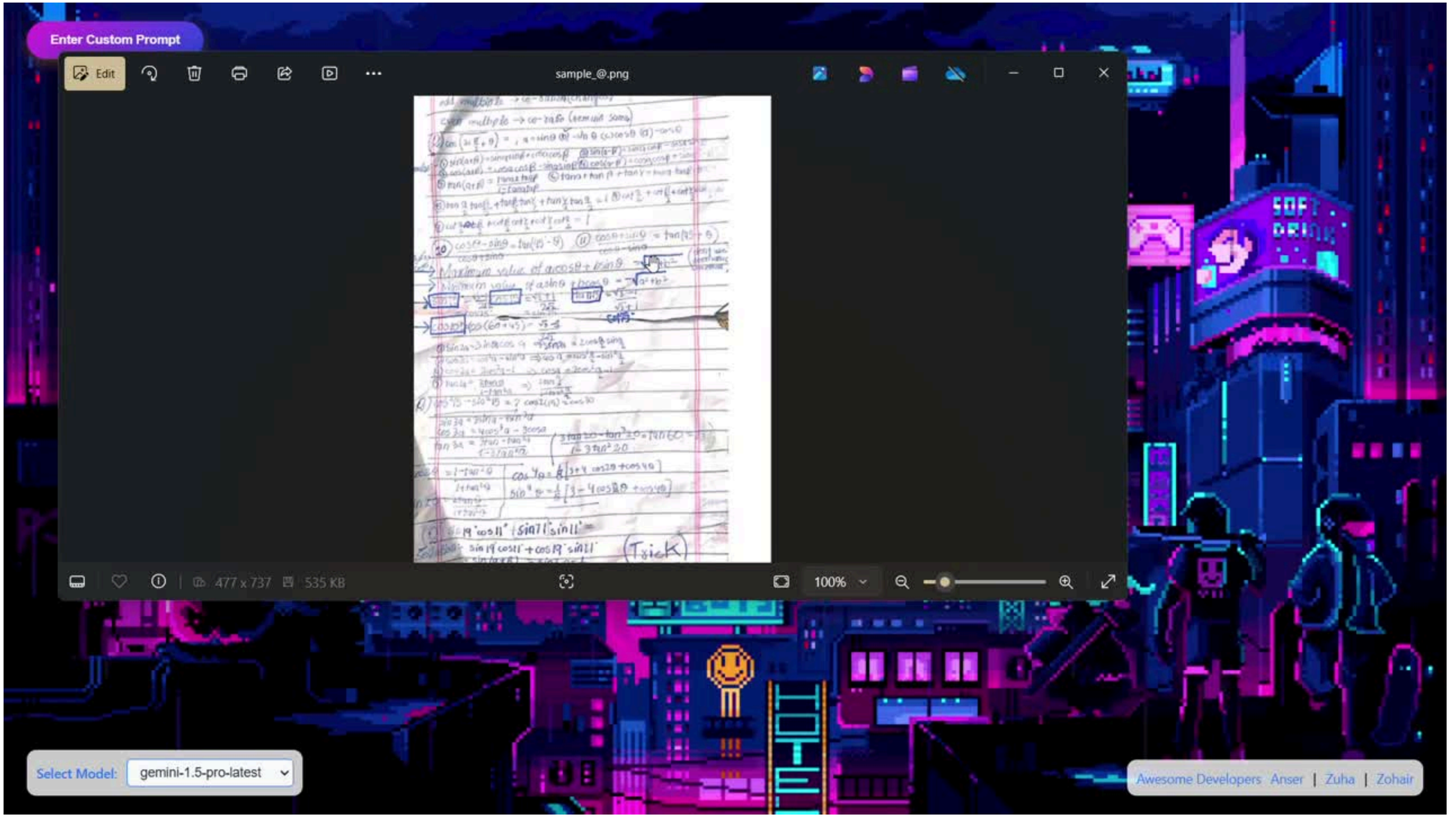
Choose Desired Model

Select from our thoughtfully curated collection of LLMs that best fit your needs.

Evaluate

To receive an evaluated quiz or assignment, simply click on the "Evaluate" button.

Grading a chaotic handwritten quiz in half a minute.



Potential Impacts

Time Efficiency:

- Dramatically diminishes the hours spent on manual grading.

Scalability:

- Perfectly suited for educational realms and virtual learning landscapes.

Accessibility:

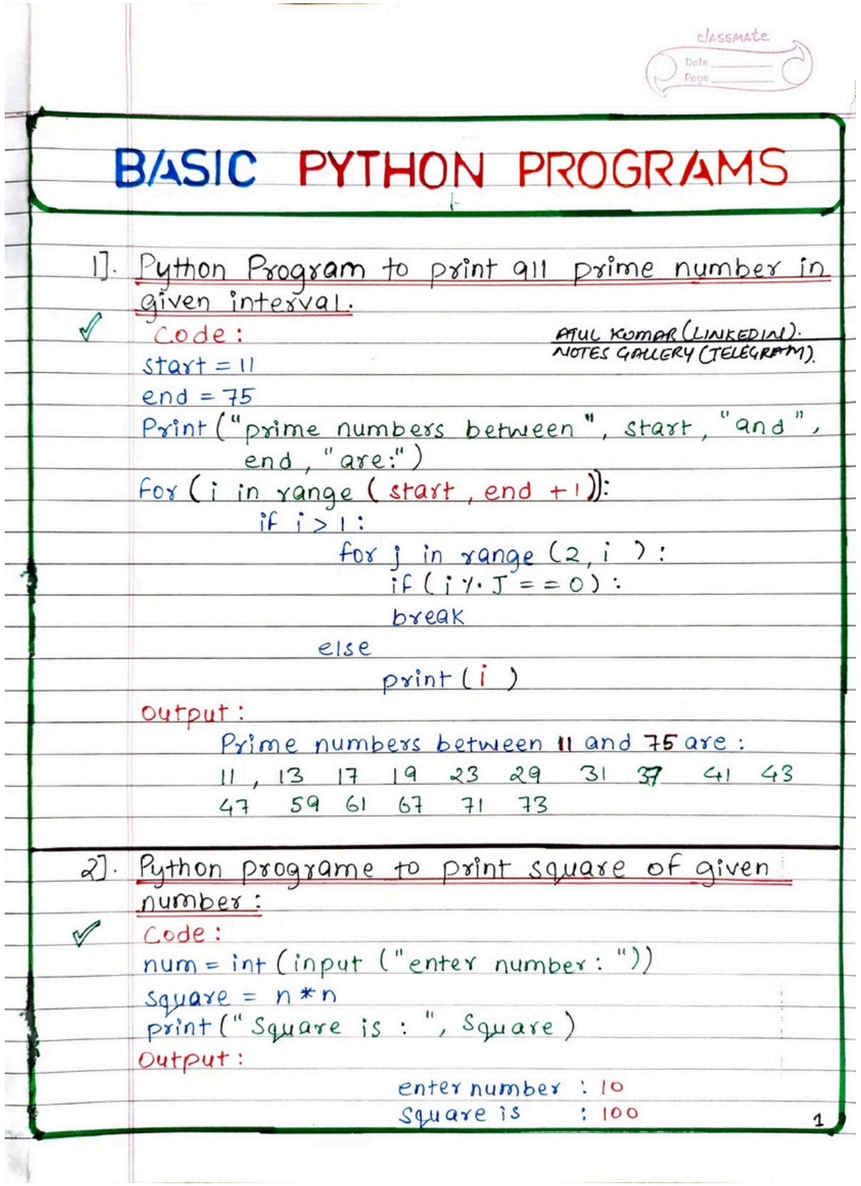
- Empowers educators to navigate intricate assessments effortlessly, enriching the learning journey.

No Need for Expertise:

- With NeuralGrader, mastery in a specific domain is no longer a prerequisite.

Tests

Handwritten Python Programs



BASIC PYTHON PROGRAMS

1]. Python Program to print all prime number in given interval.

Code:

```
start = 11
end = 75
Print("prime numbers between", start, "and",
      end, "are:")
for (i in range (start, end + 1)):
    if i > 1:
        for j in range (2, i ):
            if (i % J == 0):
            break
        else
            print (i )
```

Output:

Prime numbers between 11 and 75 are:
11, 13 17 19 23 29 31 37 41 43
47 59 61 67 71 73

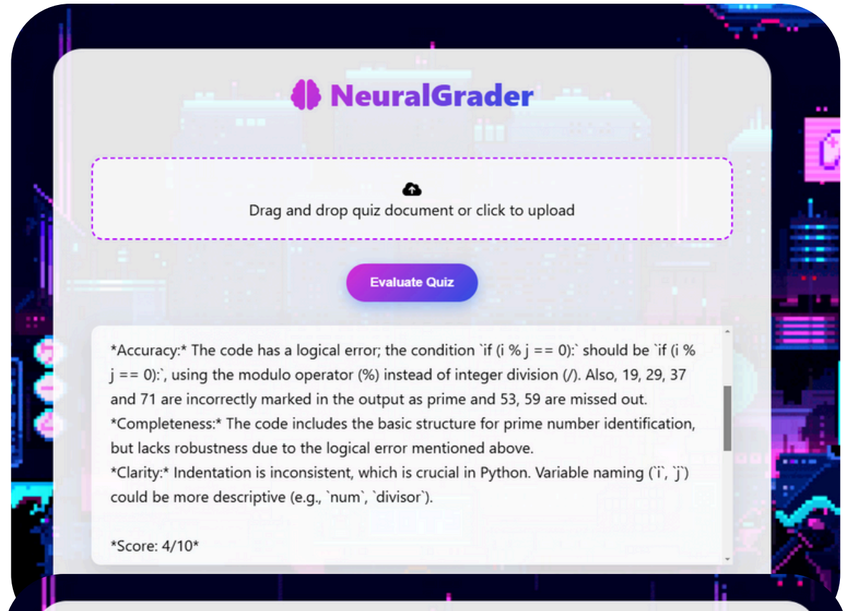
2]. Python programe to print square of given number:

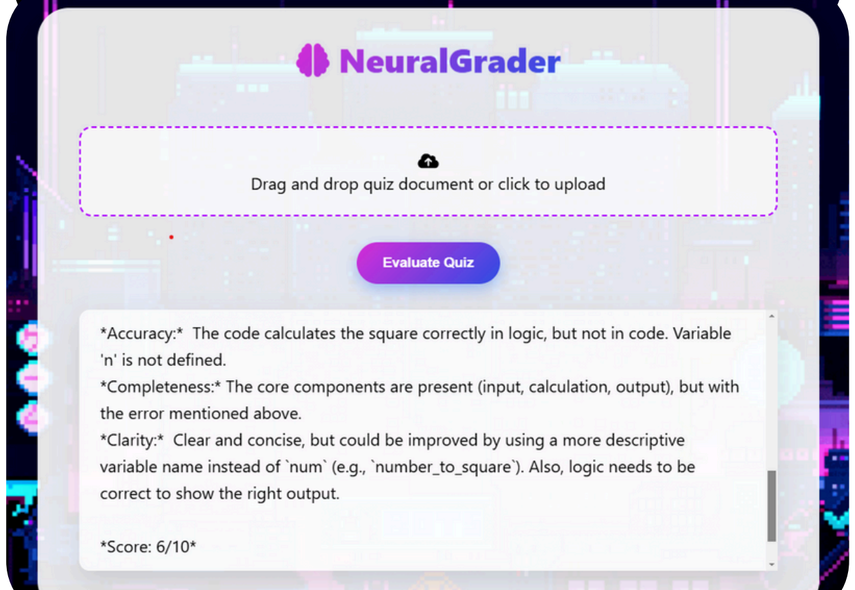
Code:

```
num = int (input ("enter number: "))
Square = n*n
print ("Square is : ", Square )
```

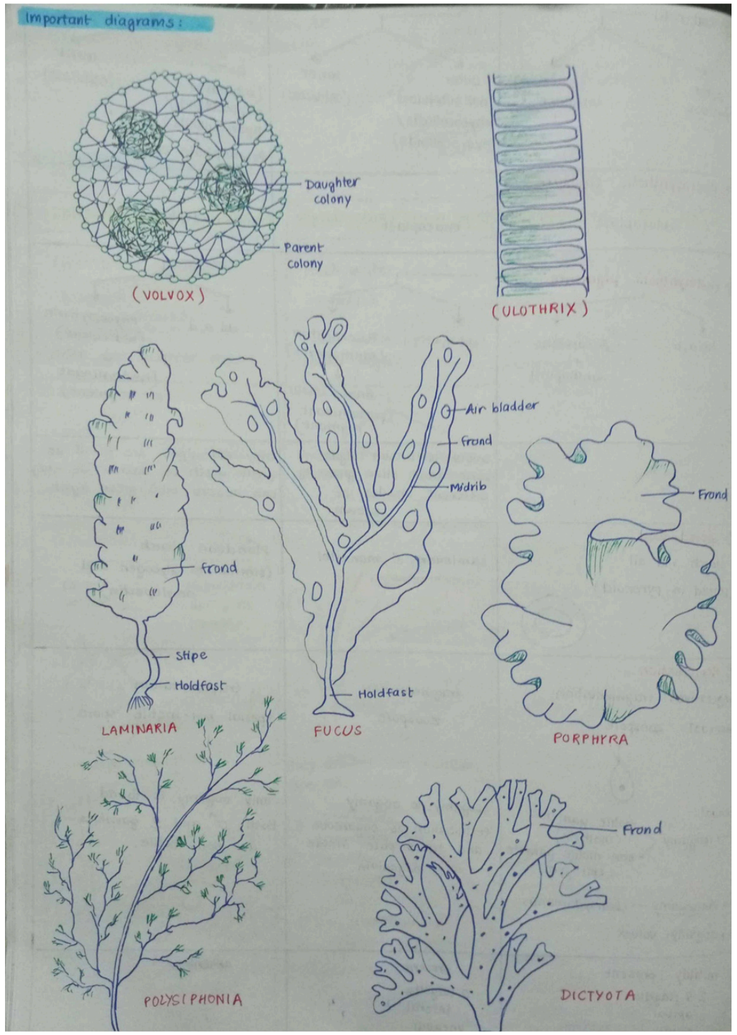
Output:

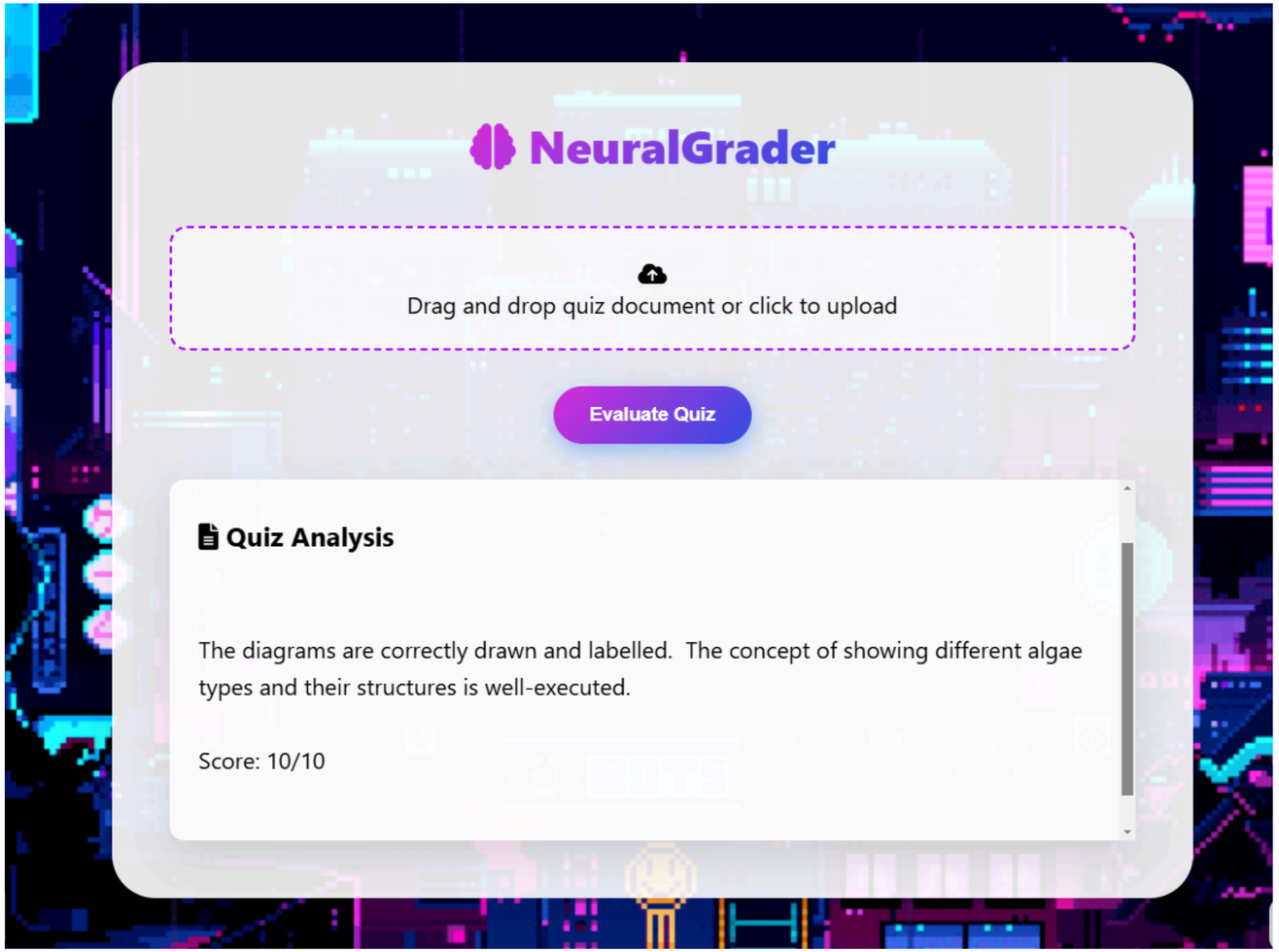
enter number : 10
Square is : 100





Biological Diagrams





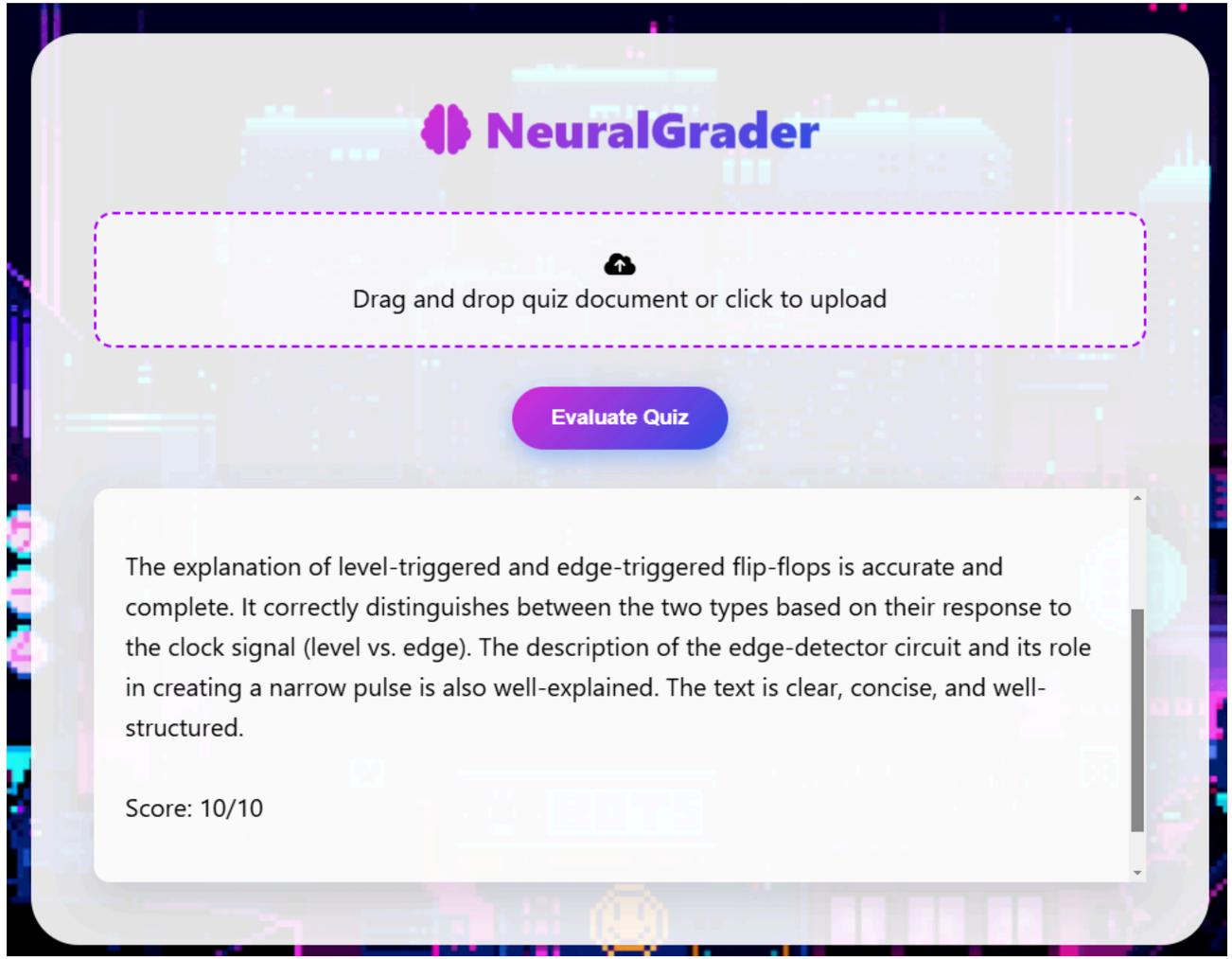
Flip FLops

10.4 Level-Triggered and Edge-Triggered Flip-Flops

In a level-triggered flip-flop, the output responds to the data present at the inputs during the time the clock pulse level is HIGH (or LOW). That is, any changes at the input during the time the clock is active (HIGH or LOW) are reflected at the output as per its function table. The clocked R-S flip-flop described in the preceding paragraphs is a level-triggered flip-flop that is active when the clock is HIGH.

In an edge-triggered flip-flop, the output responds to the data at the inputs only on LOW-to-HIGH or HIGH-to-LOW transition of the clock signal. The flip-flop in the two cases is referred to as positive edge triggered and negative edge triggered respectively. Any changes in the input during the time the clock pulse is HIGH (or LOW) do not have any effect on the output. In the case of an edge- triggered flip-flop, an edge detector circuit transforms the clock input into a very narrow pulse that is a few nanoseconds wide. This narrow pulse coincides with either LOW-to-HIGH or HIGH-to-LOW transition of the clock input, depending upon whether it is a positive edge-triggered flip-flop or a negative edge-triggered flip-flop. This pulse is so narrow that the operation of the flip-flop can be considered to have occurred on the edge itself.

Figure 10.23 shows the clocked R-S flip-flop of Fig. 10.21 with the edge detector block incorporated in the clock circuit. Figures 10.24 (a) and (b) respectively show typical edge detector circuits for positive



Thank You!

Questions? Reach Out Here:

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