
CS-4032-Web Programming

Assignment - 01

Instructions for Submission:

Dear students, failure to follow the submission format below will result in zero marks.

1. Assignments must be completed individually.
2. Combine all your work into one folder and name it RollNumber-Section.zip.
3. Run and test your program on any machine before submission.
4. Submit the .ZIP file on Google Classroom before the deadline. Submissions through other means (e.g., email) will not be accepted.
5. Check your ZIP file for issues like corruption, viruses, or mistakenly including .exe files. If the file cannot be downloaded, you will receive zero marks.
6. Use appropriate comments and indentation in your code.
7. Total Marks: 100.
8. You cannot use built-in functions or import any libraries.
9. Submit your assignment 3 hours before the deadline to avoid last-minute issues (e.g., internet problems).
10. Each assignment includes a demo and viva. Completing the assignment does not guarantee full marks. Poor viva performance can result in significant mark deductions or zero marks.

Deadline: 18 February 2026, 11:59 PM

Submit your assignment on Google Classroom. Only .ZIP files are acceptable; other formats will receive zero marks. Timely submission is your responsibility, and no exceptions will be made. Late submission policies will apply as outlined in the course syllabus.

Tip:

Start early to ensure timely completion of the assignment.

Plagiarism:

Plagiarism is strictly prohibited. If plagiarism is detected, you will receive zero marks. Copying from the internet is the easiest way to get caught.

Note:

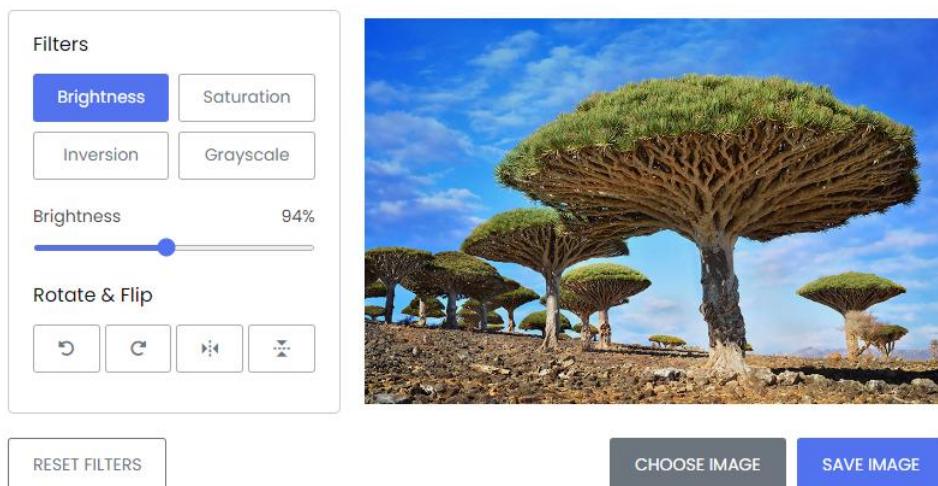
Follow these instructions exactly. Failure to comply will result in zero marks.

Photo Editor

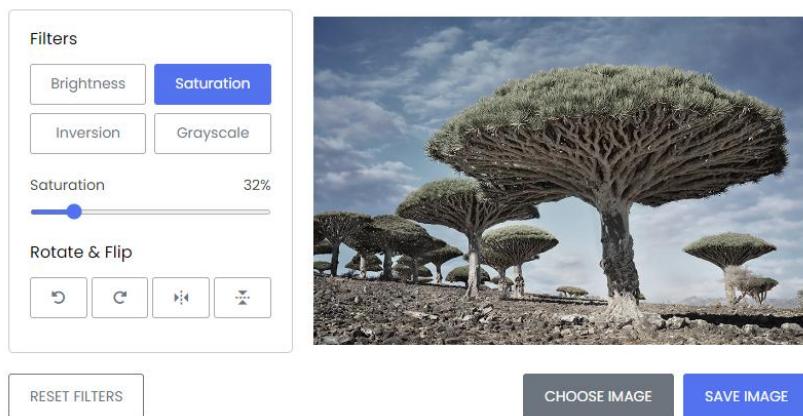
PART A

- **Choose Image:** Select an image and place it on the canvas
- **Save Image:** Save image to disk
- **Reset Filter:** Remove all filters and convert image into original form.
- **Filters:** Implement all of the filters (brightness, saturation, inversion, grayscale, rotate flip (buttons), sepia, blur, rotate (with bar)) and functionalities as shown below.
- Use the **last 2 digits of the roll number** to decide behavior of all of them. For **even**, filters increase in steps of **2** and for **odd 3**.
- **Responsive:** The frontend should be responsive for desktop as well as mobile use.
- **Note:** Follow the same frontend as shown below.

1. Brightness



2. Saturation



3. Inversion

Filters

Brightness Saturation

Inversion **Inversion** Grayscale

Inversion 100%

Rotate & Flip

RESET FILTERS CHOOSE IMAGE **SAVE IMAGE**



4. Grayscale

Filters

Brightness Saturation

Inversion **Grayscale**

Grayscale 100%

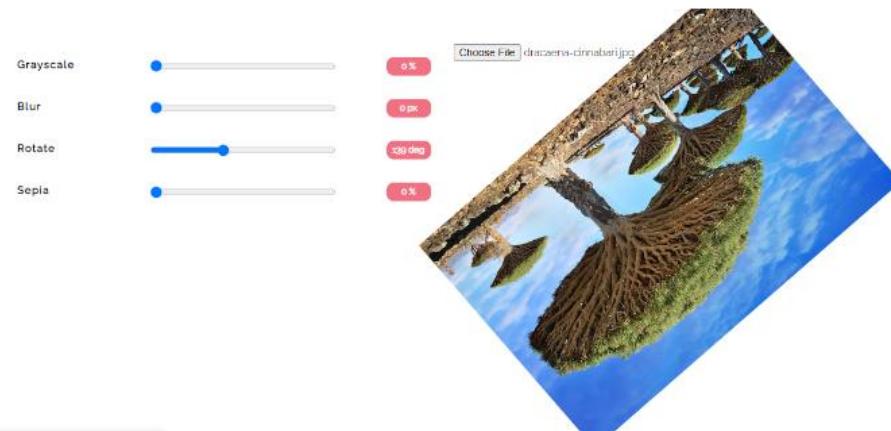
Rotate & Flip

RESET FILTERS CHOOSE IMAGE **SAVE IMAGE**

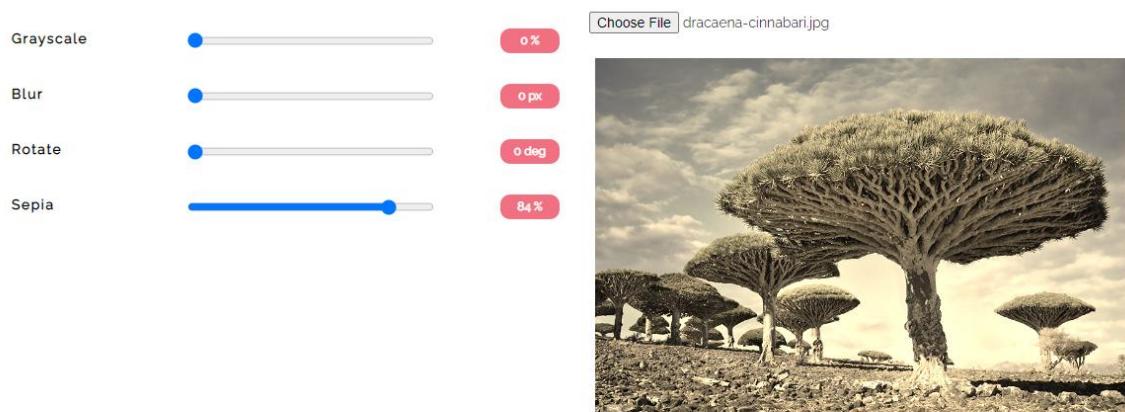


5. Rotate and Flip

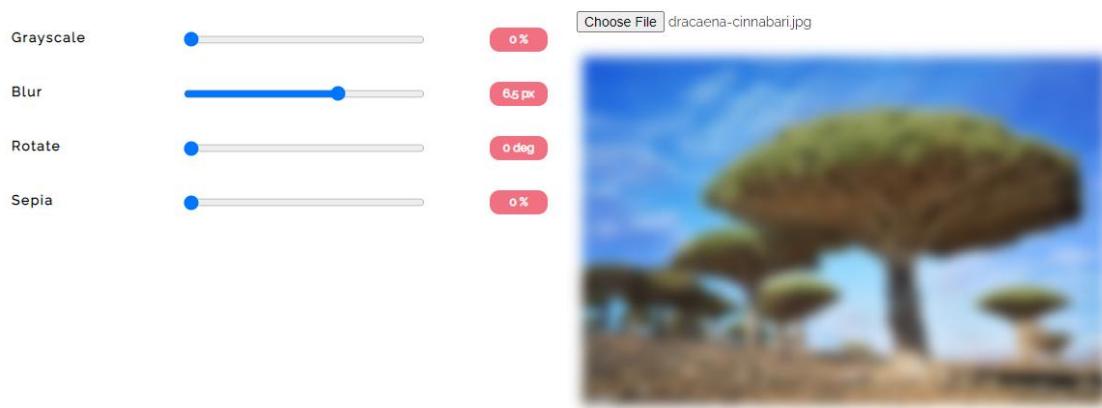
6. Rotate



7. Sepia



8. Blur



PART B

Undo/Redo & History Panel

- Implement **Undo** and **Redo** buttons to navigate through all previous and future states of the image. Each filter change (brightness, saturation, inversion, grayscale, rotate, flip, sepia, blur, etc.) counts as a separate state.
- **Undo** reverts the image to the previous state.
- **Redo** restores the image to the next state that was undone.
- Buttons should be **enabled only when applicable**.
- Create a **visual History Panel** that displays all applied filters in order, showing both the **type** of filter and its **intensity**.
- Clicking a history entry instantly reverts the image to that state.
- If a new filter is applied after reverting via the History Panel, **all future states beyond the selected point are deleted**.
- Ensure that the **Undo, Redo, and History Panel work seamlessly together**, so that all changes are fully reversible and clearly trackable.

RUBRIC

| Category | Criteria | Marks |
|---|---|-----------|
| Part A – Basics | | 40 |
| Image Selection & Canvas | - User can select and display image on canvas correctly - Image loads without distortion or errors | 5 |
| Save Image | - User can save the edited image to disk - Saved image reflects applied filters | 5 |
| Reset Filter | - Reset restores the image to its original state accurately | 5 |
| Brightness | - Brightness filter works according to roll number logic (step 2 for even, step 3 for odd) - Changes are visible on canvas | 4 |
| Saturation | - Saturation filter works according to roll number logic - Changes are visually accurate | 4 |
| Inversion | - Inversion filter works correctly | 3 |
| Grayscale | - Grayscale filter applies correctly | 3 |
| Rotate & Flip | - Rotates and flips the image correctly | 3 |
| Rotate | - Rotation in degrees works as expected | 3 |
| Sepia | - Sepia filter works correctly | 2 |
| Blur | - Blur effect works correctly | 3 |
| Part B – Undo/Redo & History Panel | | 30 |

| Category | Criteria | Marks |
|-------------------------------------|--|-----------|
| Undo Functionality | - Can revert to previous states of image correctly - Undo button active only when applicable | 7 |
| Redo Functionality | - Can restore future states correctly - Redo button active only when applicable | 7 |
| History Panel | - Displays all applied filters with type and intensity - Clicking an entry reverts image to that state - Future states removed after new filter is applied | 10 |
| Seamless Integration | - Undo/Redo works together with History Panel without glitches | 6 |
| UI/UX & Responsiveness | | 15 |
| Responsiveness | - Frontend adapts correctly for desktop and mobile devices | 5 |
| Layout & Design | - Frontend layout matches the given specification - Buttons, sliders, and panels are organized and visually clear | 5 |
| User Experience | - Intuitive filter application, reset, save, undo/redo, and history navigation | 5 |
| Code Quality & Standards | | 10 |
| Code Organization | - Proper file structure and naming conventions - Separation of HTML, CSS, JS | 4 |
| Comments & Indentation | - Code is well-commented and readable - Proper indentation and formatting | 3 |
| No Libraries/Imports | - No external libraries or imports used | 3 |
| Submission & Compliance | | 5 |
| Submission Format | - ZIP file named correctly (RollNumber-Section.zip) - Runs on testing machine without errors | 3 |
| Guidelines Compliance | - Follows instructions regarding plagiarism, file types, and submission timing | 2 |

Best of luck 😊