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# YEAR END PROJECT 2080

## TRAILBLAZERS - 1

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# 01. YEAR END PROJECT

The "Year End Project" as a culminating assessment mechanism for students undergoing the Digi Curriculum is an excellent way to gauge their progress and mastery of various technology skills acquired throughout the year. This project serves as a comprehensive evaluation tool and allows students to apply their knowledge practically and creatively.

The Year End Project assesses students' Multifaceted Technological Skills, requiring them to practically apply their knowledge in programming and multimedia creation, including database design and collaboration software utilization. It promotes the integration of concepts from various subjects, encourages creativity and innovation, and emphasizes 21st-century skills.

Collaboration and presentation skills are honed, while digital literacy and online safety are integral. Project management skills are developed, and clear assessment criteria measure technical proficiency, creativity, problem-solving, collaboration, and adherence to safety and ethical guidelines.

## MARKING SCHEME

The 'Year End Project' constitutes a significant portion, contributing **50%** to the overall annual evaluation. This comprehensive project is structured in two distinct components: 'Part A - Project' and 'Part B – Report'.

### Part A – Project

***Full Marks:*** *50*
***Pass Marks:*** *20*

### Part B – Report

***Full Marks:*** *50*
***Pass Marks:*** *20*

### Total

***Full Marks:*** *100*

***Note:*** *Students must attain the minimum passing marks in both the 'Part A - Project' and the 'Part B – Report' to successfully pass the overall assessment.*

# 02. ASSIGNMENT DESCRIPTION

## TASK

Develop a simple program in **BOTH** Scratch and Python (e.g. Quiz Game, Guessing Game, Smallest Number Finder, Odd-even Detector, Random percentage generator, etc.) Explore and analyze the similarities and subtle differences in the functioning of these two languages.

**Project Template Link:**

*https://docs.google.com/document/d/1mKK4lFTLGrpok_rzGGP4tCicvBXAfZT2/edit?usp=drive_link&ouid=104176032705769627843&rtpof=true&sd=true*

## PROJECT REQUIREMENTS

### Part A – Project (50 marks)

01. Ensure that your program incorporates the following programming fundamentals:
    a. Use at least three variables. **(3)**
    b. Include user input. **(2)**
    c. Utilize conditional statements. **(2)**
    d. Implement a loop. **(2)**
    e. Showcase output. **(1)**
02. Develop an algorithm for your program. Ensure that a single algorithm is applicable for both your Python and Scratch programs. **(5)**
03. Create a flowchart for your program using draw.io. Keep in mind that a single flowchart should be applicable for both your Python and Scratch programs. **(10)**
04. Implement your program in Scratch. **(6)**
05. Implement your program in Python (avoid using any external libraries). **(6)**
06. Document four similarities and differences you discover between Python and Scratch while creating the same program in both languages. **(4+4 = 8)**
07. Throughout the entire project, from conceptualizing the program to executing the idea into both languages, emphasize your uniqueness and creativity. **(5)**

### Part B – Report (50 marks)

Adequately complete the following sections in your project report:

- Introduction **(5)**
- Objective **(5)**

- Procedure **(20)**
- Findings **(15)**
- Conclusion **(5)**

# REPORT GUIDELINES

## Introduction

***Word count range:*** *25-75*

Start by briefly explaining the main ideas or terms that are important for understanding the project. Give a short overview of what your project is about and let readers know what they can expect.

## Objective

***Word count range:*** *15-50*

Clearly state the detailed aim of this project and provide a glimpse of what the final project will look like. Begin your objective with a verb and aim to express it in a single sentence if possible.

## Procedure

***Word count range:*** *125-250*

Explain the details of the "how" part of your project, guiding readers through each step of achieving specific functionalities. Elaborate on the reasoning behind decisions, like color and imagery choices. Present your procedure in bullet points where applicable and utilize screenshots and other resources for a clearer explanation.

## Findings

***Word count range:*** *100-200*

Share the insights and results gained from completing the project. Discuss discoveries made and mistakes encountered during the process, providing practical insights for future projects. Present your findings in bullet points where applicable and use screenshots and other resources for a comprehensive and accessible illustration of the results.

## Conclusion

***Word count range:*** *25-75*

Summarize and reflect on your overall journey in building the project. Write a conclusion in one sentence, if possible, that is concise yet impactful, capturing the essence of your experience and the lessons learned.

# WHAT NOT TO DO

- Strict prohibition against plagiarism is in effect, and any project identified as a direct replication of another's work will be subject to rejection.
- Inclusion of images, language, or themes that could be deemed hurtful, disrespectful, or offensive to others is strongly discouraged in your project.
- Emphasize reliance on personal understanding and creativity, utilizing AI as a supplementary resource. Avoidance of excessive dependence on AI is encouraged to preserve the uniqueness of your input.
- Adherence to project guidelines is strictly mandated. Deviation from these guidelines may have an impact on your assessment. If in doubt, seek clarification to ensure alignment of your work with project requirements.
- Safeguarding any confidential or proprietary information is imperative, ensuring that your project does not disclose sensitive data without proper authorization.
- Accurate citation and referencing of all sources used in your project are expected to acknowledge the intellectual property of others. Failure to do so may result in a negative impact on your assessment.
- Adherence to project deadlines and submission timelines is required. Late submissions may be subject to penalties or a reduction in the evaluation score.

# 03. MARKING RUBRICS

## PART A – PROJECT (50 MARKS)

| Programming Fundamentals (10 marks) | | |
|---|---|---|
| **0-3** | **4-7** | **8-10** |
| Limited incorporation of programming fundamentals; fails to meet the requirements for variables, user input, conditional statements, loops, or output. | Adequate implementation of programming fundamentals; includes variables, user input, conditional statements, loops, and output, but there may be minor issues or limitations. | Excellent implementation of programming fundamentals; seamlessly integrates variables, user input, conditional statements, loops, and output, showcasing a high level of understanding and proficiency. |
| **Algorithm Development (5 marks)** | | |
| **0-2** | **3-4** | **5** |
| Inadequate algorithm development; lacks clarity, coherence, or applicability to both Python and Scratch programs. | Good algorithm development; creates a clear and coherent algorithm applicable to both Python and Scratch programs. | Excellent algorithm development; develops a highly clear and coherent algorithm, ensuring its applicability to both Python and Scratch programs. |
| **Flowchart Creation (10 marks)** | | |
| **0-3** | **4-7** | **8-10** |
| Poor flowchart creation; lacks clarity, coherence, or fails to address both Python and Scratch programs adequately. | Adequate attention to the user interface; a clear title is present, but user messages may need improvement. | Excellent flowchart creation; develops a highly clear and coherent flowchart, ensuring its applicability to both Python and Scratch programs. |
| **Implementation in Scratch (6 marks)** | | |
| **0-2** | **3-4** | **5-6** |
| Incomplete or significantly flawed Scratch implementation; fails to represent the intended program or exhibits critical errors. | Adequate Scratch implementation; represents the program but may have minor issues or limitations. | Excellent Scratch implementation; seamlessly represents the program, showcasing a high level of proficiency in Scratch programming. |

| Implementation in Python (6 marks) | | |
|---|---|---|
| **0-2** | **3-4** | **5-6** |
| Incomplete or significantly flawed Python implementation; fails to represent the intended program or exhibits critical errors. | Adequate Python implementation; represents the program but may have minor issues or limitations. | Excellent Python implementation; seamlessly represents the program, showcasing a high level of proficiency in Python programming. |
| **Comparison of Python and Scratch (8 marks)** | | |
| **0-3** | **4-6** | **7-8** |
| Limited comparison; fails to identify significant similarities and differences between Python and Scratch for the given program. | Good comparison; effectively identifies and discusses similarities and differences between Python and Scratch for the given program. | Excellent comparison; thoroughly examines and articulates significant similarities and differences, demonstrating a deep understanding of both languages. |
| **Creativity and Uniqueness (5 marks)** | | |
| **0-2** | **3-4** | **5** |
| Little to no emphasis on uniqueness and creativity; the program lacks inventive elements or fails to stand out. | Good emphasis on uniqueness and creativity; features creative elements that enhance the overall program. | Excellent emphasis on uniqueness and creativity; the program stands out through inventive and original design and implementation, showcasing a high level of creativity. |

# PART B – REPORT (50 MARKS)

| Introduction (5 marks) | | |
|---|---|---|
| **0-2** | **3-4** | **5** |
| The introduction is unclear, missing essential information about the project. | Some elements of the introduction are present, but they lack coherence and may not fully engage the reader. | The introduction is clear, concise, and engaging, providing essential information about the project. |
| **Objective (5 marks)** | | |
| **0-2** | **3-4** | **5** |
| The objective is unclear or absent. | The objective is stated but lacks specificity or clarity. | The objective is clear, specific, and effectively guides the reader in understanding the project's purpose. |
| **Procedure (20 marks)** | | |
| **0-8** | **9-16** | **17-20** |
| The procedure is incomplete, unclear, or lacks necessary details. | Some elements of the procedure are present, but there are gaps or insufficient detail. | The procedure is detailed, well-organized, and provides a comprehensive understanding of the design process. |
| **Findings (15 marks)** | | |
| **0-6** | **7-12** | **13-15** |
| Findings are unclear, missing, or not relevant to the project. | Some relevant findings are present, but they lack depth or clarity. | Findings are comprehensive, clearly presented, and directly related to the project, providing valuable insights. |
| **Conclusion (5 marks)** | | |
| **0-2** | **3-4** | **5** |
| The conclusion is absent or unclear. | The conclusion is present but lacks a concise summary and synthesis of findings. | The conclusion effectively summarizes the key findings and provides a clear synthesis, bringing the report to a strong and logical close. |