Abstract

This paper describes a systematic approach to automating the creation of quizzes in Google Forms by leveraging Google Apps Script and a CSV file stored in Google Drive. The process eliminates the need for manual data entry, thereby saving time and reducing human error. The methodology outlines how a CSV file containing multiplechoice questions is parsed and converted into a fully functional quiz within Google Forms.

1. Introduction

Educational institutions and instructors often require multiple quizzes for assessments. Manually entering questions into Google Forms is a repetitive and time-consuming task. To address this challenge, Google Apps Script can be employed to automate quiz generation directly from structured CSV files. This paper demonstrates the step-by-step process of uploading a CSV file to Google Drive, integrating it with a Google Apps Script project, and generating a Google Form guiz.

2. Materials and Tools

The following tools are required for this process:

- Google Drive: To store the CSV file containing quiz data.
- **CSV File**: A structured file containing questions, options, and correct answers.
- **Google Apps Script**: A scripting environment provided by Google for automation.
- **Google Forms**: The target platform for quiz creation.

3. Methodology

The methodology is divided into four primary stages:

3.1 Uploading the CSV File

1. Prepare a CSV file with structured columns (e.g., *Question, Option A, Option B, Option C, Option D, Correct Answer*).

- 2. Save the file under a recognizable name such as mcq1.csv.
- 3. Upload the CSV file to **Google Drive**.

3.2 Creating the Apps Script Project

- 1. Open **Google Apps Script** from script.google.com.
- 2. Create a **new project** and assign a relevant name (e.g., "MCQ Quiz Automation").
- 3. Inside the editor, paste the provided code for quiz generation.
 - The code searches Google Drive for mcq1.csv.
 - It reads and parses the file into an array of questions and answers.
 - It creates a new Google Form set as a quiz.

3.3 Running the Script

- 1. Save the script.
- 2. From the **Run** menu, execute the function (e.g., createQuizFormFromCSV()).
- 3. Grant necessary permissions when prompted (Google requires authorization for Drive and Forms access).
- 4. The script parses the CSV, looping through each row to:
 - Insert the question text.
 - Provide multiple-choice or checkbox options.
 - Mark correct answers.
 - · Assign points.

3.4 Generating the Quiz

- Once the script completes, a new Google Form quiz titled "MCQ Quiz from CSV" is automatically created.
- The quiz is preloaded with all questions, options, and correct answers.
- Instructors can share the quiz directly with students or further customize it.

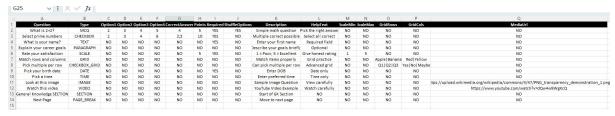
4. Results

The automation process results in a fully functional Google Form quiz generated directly from CSV data. This eliminates manual question entry and ensures consistency across multiple quizzes. The approach is scalable for large sets of questions (e.g., 50–100 items), significantly reducing instructor workload.

Step 1: CSV File Preparation

1. Create a CSV file with the following **header columns**:

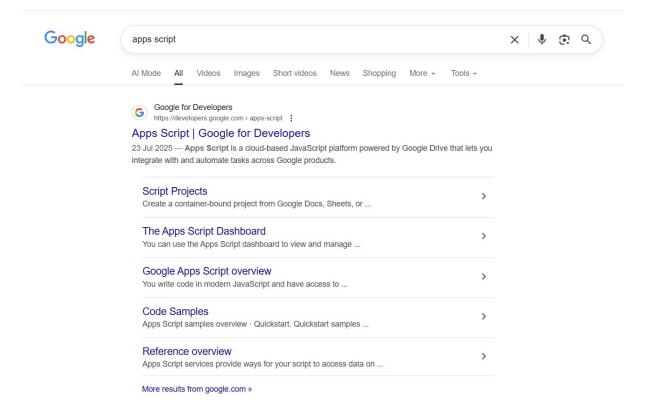
Question, Type, Option1, Option2, Option3, Option4, CorrectAnswer, Points, Required, ShuffleOptions, Description, HelpText, ScaleMin, ScaleMax, GridRows, GridCols, MediaUrl



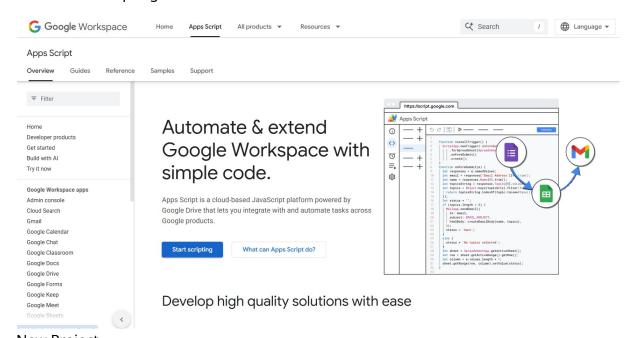
- 2. Each row in the CSV defines one form element. Examples include:
 - MCQ (Multiple Choice)
 - CHECKBOX (Checkbox)
 - TEXT / PARAGRAPH (Short or long answer)
 - **SCALE** (Rating scale)
 - GRID / CHECKBOX_GRID (Matrix questions)
 - **DATE / TIME** (Calendar inputs)
 - **IMAGE / VIDEO** (Media content)
 - SECTION / PAGE_BREAK (Form structuring elements)
- 3. Save the file with a name such as mcq1.csv and upload it to **Google Drive**.

Step 2: Apps Script Setup

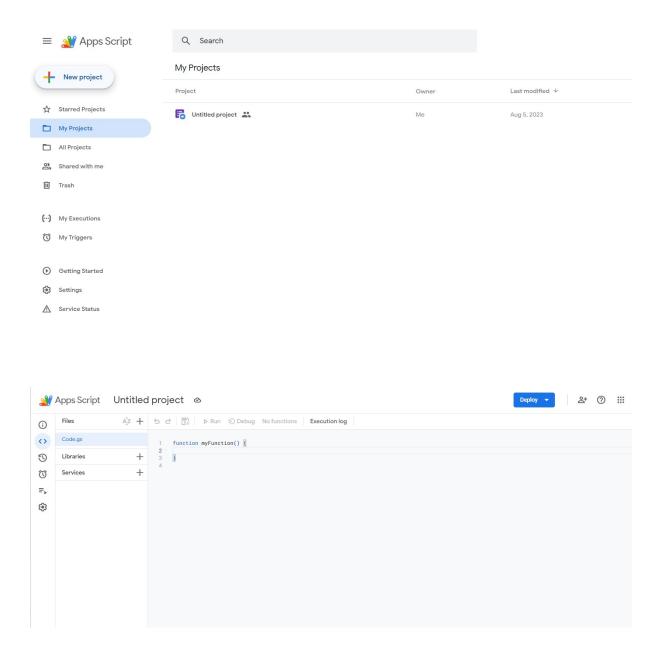
1. Open script.google.com and create a new project.



Start a new Scripting



New Project



2. Paste the Apps Script code that:

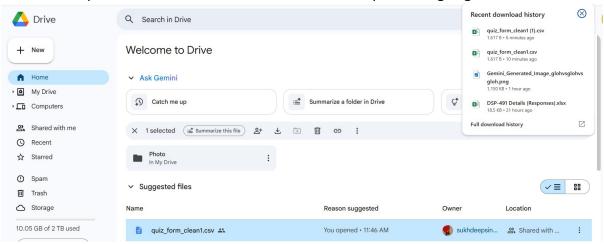
- Reads mcq1.csv from Google Drive.
- Parses the CSV into an array.
- Iterates through each row to create the corresponding form item.

The code link is here on **GitHub code**

```
Deploy ▼ 2+ ② :::
                                                                 ÂZ + 5 ♂ 🕝 ▶ Run Ď Debug No functions Execution log
 (i)
                  O Code.gs
<>
                                                                                                          function createQuizFormFromCSV() {
    // Load CSV file from Google Drive
    var file = DriveApp.getFilesByName(["quiz_form_clean2.csv"]].next();
    var csvData = Utilities.parseCsv(file.getBlob().getDataAsString());
                                                                           +
                  Libraries
 3
 0
                   Services
                                                                            +
                                                                                                                                                 mApp.create("MCQ Quiz from CSV");
 ₽,
                                                                                                              form.setIsQuiz(true);
 (3)
                                                                                                             // Define types that support quiz points var pointSupportedTypes = ["MCQ", "CHECKBOX", "TEXT", "PARAGRAPH", "SCALE"];
                                                                                                             // Loop through rows (skip header)
for (var i = 1; i < csvData.length; i++) {
  var row = csvData[i];
  if (row.length < 2) continue; // Skip incomplete rows</pre>
                                                                                                                var questionText = row[0];
var type = row[1] ? row[1].toUpperCase() : "";
var options = [row[2], row[3], row[4], row[5]];
var options = [row[2], row[3], row[4], row[5]];
var options = row[7] && row[7] !== "NO" ? parsEnt(row[7], 10) : null;
var required = row[8] && row[8].toUpperCase() === "VES";
var shuffle = row[9] && row[9], toUpperCase() === "VES";
var shuffle = row[1] && row[1] !== "NO" ? row[1] : "";
var description = row[10] && row[11] !== "NO" ? row[11] : "";
var scaleMin = row[12] && row[11] !== "NO" ? parseInt(row[12], 10) : 1;
var scaleMax = row[13] && row[14] !== "NO" ? parseInt(row[13], 10) : 5;
var gridRows = row[14] && row[14] !== "NO" ? row[14].split("|") : [];
var mediaUrl = row[16] && row[16] !== "NO" ? row[16] : "";
                                                                                                             if (!questionText) continue;
```

Step 3: CSV Parsing

1. The script retrieves the CSV file: which is we will upload on google drive like this

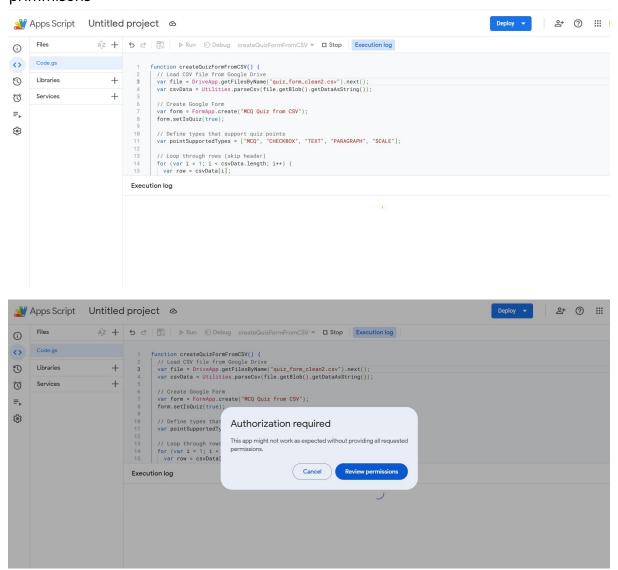


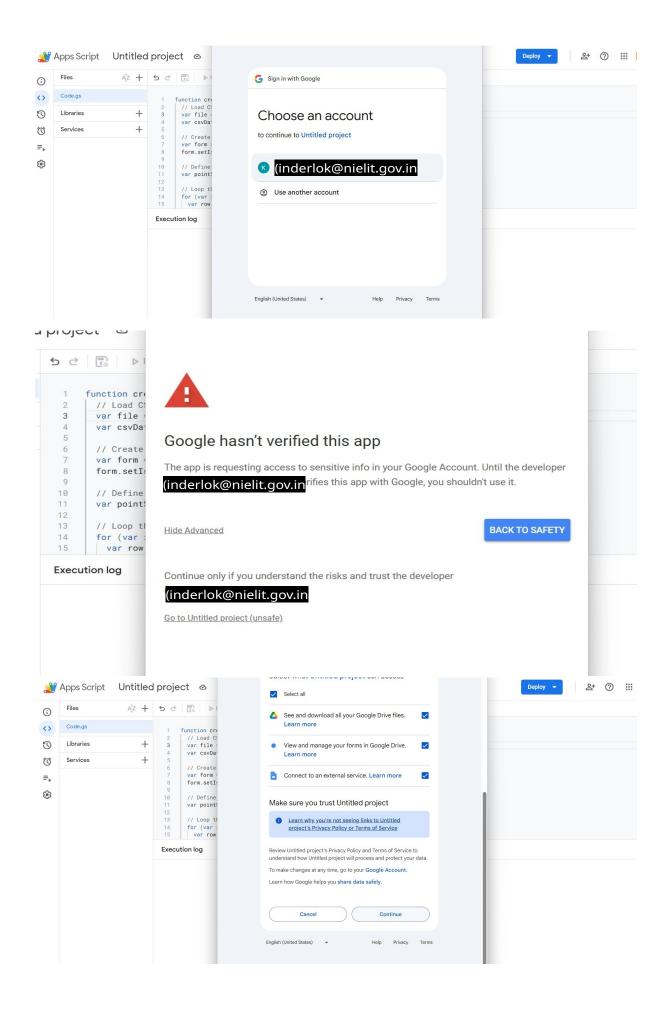


```
var file = DriveApp.getFilesByName("mcq1.csv").next();
var csvData = Utilities.parseCsv(file.getBlob().getDataAsString());
```

- 2. csvData is a 2D array, where:
 - csvData[0] = header row.
 - csvData[1] onward = questions and elements.

Go to apps Script and save then run the code this will ask your primmisions alow all the primmisons





After excuting the script we will get the form link



Step 4: Google Form Creation

1. A new Google Form is generated:

```
var form = FormApp.create("MCQ Quiz from CSV");
form.setIsQuiz(true);
```

2. This form will be populated based on CSV rows

Step 5: Adding Questions & Elements

The script loops through each CSV row and interprets **Type** to decide what to add:

- MCQ: Creates a multiple-choice item with options from Option1-Option4.
- **CHECKBOX**: Creates a checkbox item with multiple correct answers (separated by ; in CorrectAnswer).
- **TEXT / PARAGRAPH**: Creates open-ended input fields.
- SCALE: Uses ScaleMin and ScaleMax to set the numeric range.
- **GRID / CHECKBOX_GRID**: Splits GridRows and GridCols into separate options using |.
- **DATE / TIME**: Adds date or time input questions.
- IMAGE / VIDEO: Inserts media into the form using the MediaUrl column.
- **SECTION / PAGE BREAK**: Adds form navigation and structuring.

Additional column behavior:

- **CorrectAnswer**: Marks correct responses for quiz scoring.
- **Points**: Allocates points per question.
- **Required**: Sets whether a question must be answered.

- **ShuffleOptions**: Randomizes option order if set to YES.
- **Description** & **HelpText**: Provide supporting instructions.

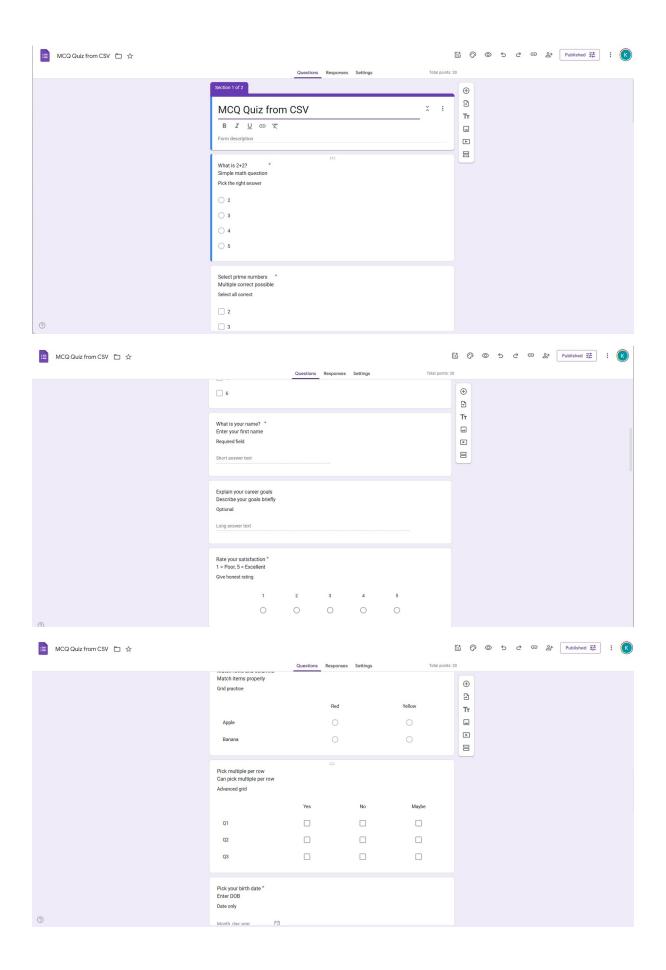
Step 6: Execution

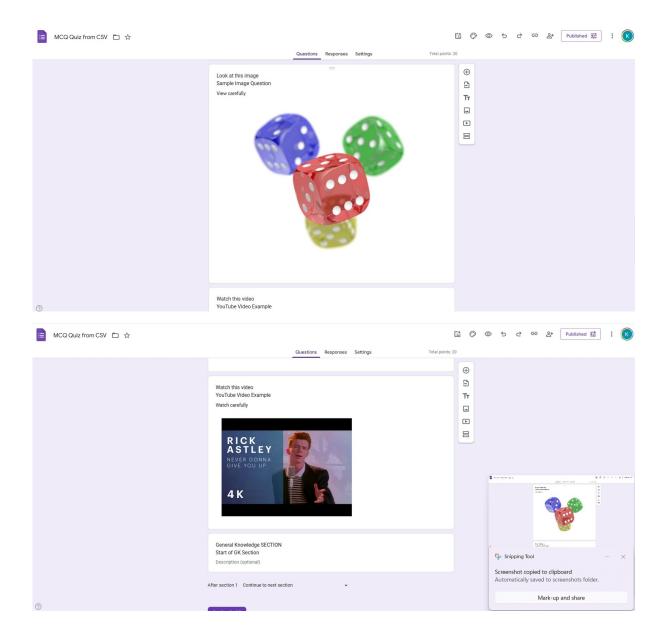
- 1. Save and run the function createQuizFormFromCSV().
- 2. On first run, grant authorization to access Google Drive and Google Forms.
- 3. The script generates a **Google Form** with all questions, media, and structure as defined in the CSV.

Step 7: Output

- The resulting Google Form will:
- Contain all specified question types.
- Include media (images/videos) where required.
- Apply quiz settings (points, correct answers, required fields).
- Respect structural elements (sections, page breaks).

This ensures the form is a **one-to-one reflection of the CSV design**.





Working of this script

Step 1: Load the CSV file

var file = DriveApp.getFilesByName("mcq1.csv").next(); var csvData
= Utilities.parseCsv(file.getBlob().getDataAsString());

- Finds the file named mcq1.csv in Google Drive.
- Reads its content as text, then parses it into a **2D array** (csvData), where each row is a question with details.

Step 2: Create a Google Form

```
var form = FormApp.create("MCQ Quiz from CSV");
form.setIsQuiz(true);
```

- Creates a new Google Form titled "MCQ Quiz from CSV".
- Sets the form as a **quiz**, so you can assign points and correct answers.

Step 3: Define question types that allow points

```
var pointSupportedTypes = ["MCQ", "CHECKBOX", "TEXT", "PARAGRAPH",
"SCALE"];
```

- Only these types will support quiz points.
- For other types (like image, video, section), points are not directly supported.

Step 4: Loop through CSV rows

```
for (var i = 1; i < csvData.length; i++) {
  var row = csvData[i];
  ...
}</pre>
```

- Skips the header row (i=1).
- Reads each row of the CSV → every row defines one question.

Step 5: Extract question data

Each row contains:

Step 6: Add question based on type

```
switch (type) { case
"MCQ": ... case
"CHECKBOX": ... case
"TEXT": ...
   case "PARAGRAPH": ...
case "SCALE": ...
case "GRID": ...
   case "CHECKBOX_GRID": ...
case "DATE": ... case
"TIME": ... case
"TIME": ... case
"VIDEO": ...
case "SECTION": ... case
"PAGE_BREAK": ... }
```

- MCQ (Multiple Choice) → Creates choices, marks correct answer.
- CHECKBOX → Creates multiple correct answers.
- **TEXT / PARAGRAPH** → Creates short/long answer input.
- SCALE → Rating scale (like 1–5).
- GRID / CHECKBOX_GRID → Rows & columns (like a matrix).
- **DATE / TIME** → Date or time picker.
- **IMAGE / VIDEO** → Fetches from a URL and inserts.
- SECTION / PAGE BREAK → Adds form sections.

Step 7: Apply common properties

```
if (item) {
   if (description) item.setTitle(item.getTitle() + "\n" + description);
if (helpText && item.setHelpText) item.setHelpText(helpText);

if (points !== null) {
   if (pointSupportedTypes.includes(type) && item.setPoints) {
     item.setPoints(points);
   }
}

if (required && item.setRequired) item.setRequired(true);
if (shuffle && item.setShuffleOptions) item.setShuffleOptions(true);
}
```

• Adds **description** under the question title.

- Adds **help text** if provided.
- Sets **points** (only if supported).
- Marks as **required** if needed.
- Shuffles options if YES.

Step 8: Final log

```
Logger.log(" Form created: " + form.getEditUrl()); ✓
    • Prints the edit link of the created Google Form.
The apps script
function createQuizFormFromCSV() {
 // Load CSV file from Google Drive
 var file = DriveApp.getFilesByName("mcg1.csv").next();
 var csvData = Utilities.parseCsv(file.getBlob().getDataAsString());
 // Create Google Form
 var form = FormApp.create("MCQ Quiz from CSV");
 form.setIsQuiz(true);
 // Define types that support quiz points
 var pointSupportedTypes = ["MCQ", "CHECKBOX", "TEXT", "PARAGRAPH", "SCALE"];
 // Loop through rows (skip header)
 for (var i = 1; i < csvData.length; i++) {
  var row = csvData[i];
```

if (row.length < 2) continue; // Skip incomplete rows

```
var questionText = row[0];
var type = row[1] ? row[1].toUpperCase() : "";
var options = [row[2], row[3], row[4], row[5]];
var correct = row[6];
var points = row[7] && row[7] !== "NO" ? parseInt(row[7], 10) : null;
var required = row[8] && row[8].toUpperCase() === "YES";
var shuffle = row[9] && row[9].toUpperCase() === "YES";
var description = row[10] && row[10] !== "NO" ? row[10] : "";
var helpText = row[11] && row[11] !== "NO" ? row[11] : "";
var scaleMin = row[12] && row[12] !== "NO" ? parseInt(row[12], 10) : 1;
var scaleMax = row[13] && row[13] !== "NO" ? parseInt(row[13], 10) : 5;
var gridRows = row[14] && row[14] !== "NO" ? row[14].split("|") : [];
var gridCols = row[15] && row[15] !== "NO" ? row[15].split("|") : [];
var mediaUrl = row[16] && row[16] !== "NO" ? row[16] : "";
if (!questionText) continue;
var item = null;
switch (type) {
 case "MCQ":
  var mcqOpts = options.filter(o => o && o.toUpperCase() !== "NO");
  if (mcqOpts.length === 0) continue;
  item = form.addMultipleChoiceItem().setTitle(questionText);
  var mcqChoices = mcqOpts.map(opt => item.createChoice(opt, opt === correct));
  item.setChoices(mcqChoices);
```

```
break;
case "CHECKBOX":
var cbOpts = options.filter(o => o && o.toUpperCase() !== "NO");
 if (cbOpts.length === 0) continue;
 item = form.addCheckboxItem().setTitle(questionText);
var cbChoices = cbOpts.map(opt =>
  item.createChoice(opt, correct && correct.split(";").includes(opt))
);
item.setChoices(cbChoices);
 break;
case "TEXT":
 item = form.addTextItem().setTitle(questionText);
 break;
case "PARAGRAPH":
item = form.addParagraphTextItem().setTitle(questionText);
 break;
case "SCALE":
item = form.addScaleItem()
  .setTitle(questionText)
  .setBounds(scaleMin, scaleMax);
 break;
```

```
case "GRID":
                 if (gridRows.length && gridCols.length) {
                     var gridTitle = questionText + (points ? " (Points: " + points + ")" : "");
                     item =
form.addGridItem().setTitle(gridTitle).setRows(gridRows).setColumns(gridCols);
                }
                 break;
             case "CHECKBOX_GRID":
                 if (gridRows.length && gridCols.length) {
                     var gridTitleCB = questionText + (points ? " (Points: " + points + ")" : "");
                     item =
form. add Checkbox Grid Item (). set Title (grid Title CB). set Rows (grid Rows). set Columns (grid CB) and the CB is the CB
ols);
                }
                 break;
             case "DATE":
                 item = form.addDateItem().setTitle(questionText + (points ? " (Points: " + points +
")":""));
                 break;
             case "TIME":
                 item = form.addTimeItem().setTitle(questionText + (points ? " (Points: " + points + ")"
: ""));
                 break;
             case "IMAGE":
```

```
if (mediaUrl) {
     try {
      var imgResponse = UrlFetchApp.fetch(mediaUrl, { muteHttpExceptions: true });
      if (imgResponse.getResponseCode() === 200) {
       var imgBlob = imgResponse.getBlob();
       item = form.addImageItem().setTitle(questionText + (points ? " (Points: " + points
+ ")": ""));
       item.setImage(imgBlob);
      } else {
       Logger.log(" 1 Image not found for: " + questionText + " (" + mediaUrl + ")");
      }
     } catch (e) {
      Logger.log("X Error fetching image for: " + questionText + " -> " + e);
     }
    }
    break;
   case "VIDEO":
    if (mediaUrl) {
     try {
      if (mediaUrl.includes("youtube.com") | | mediaUrl.includes("youtu.be")) {
       item = form.addVideoItem().setTitle(questionText + (points? " (Points: " + points
+ ")": ""));
       item.setVideoUrl(mediaUrl);
      } else {
       Logger.log(" 1 Invalid video URL for: " + questionText + " (" + mediaUrl + ")");
      }
```

```
} catch (e) {
    Logger.log("X Error adding video for: " + questionText + " -> " + e);
   }
  }
  break;
 case "SECTION":
  item = form.addSectionHeaderItem().setTitle(questionText);
  break;
 case "PAGE_BREAK":
  item = form.addPageBreakItem().setTitle(questionText);
  break;
 default:
  Logger.log("Unknown type: " + type + " for question: " + questionText);
  continue;
// Apply common properties
if (item) {
 if (description) item.setTitle(item.getTitle() + "\n" + description);
 if (helpText && item.setHelpText) item.setHelpText(helpText);
 // Only apply points where supported
 if (points !== null) {
```

}

```
if (pointSupportedTypes.includes(type) && item.setPoints) {
    item.setPoints(points);
}
// else: already appended to title for unsupported
}
if (required && item.setRequired) item.setRequired(true);
if (shuffle && item.setShuffleOptions) item.setShuffleOptions(true);
}
Logger.log(" Form created: " + form.getEditUrl());
}
```