



# **Automatic Answer Checker System**

## **User Manual**

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# 1. Main Menu

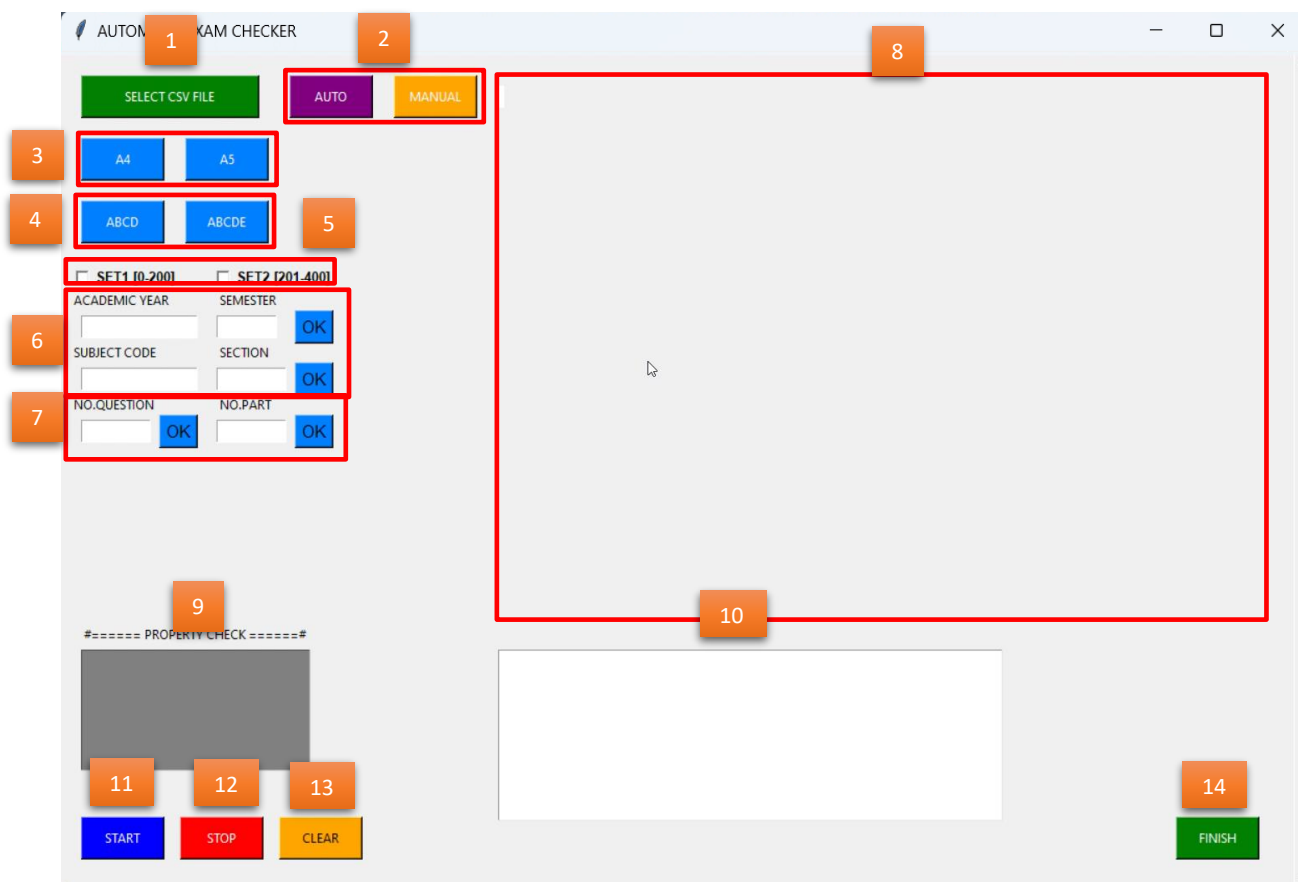


Figure 1 Main screen menu

The description of the main menu is as follows.

**Number 1** Select CSV file button, use for selecting the CSV file data which includes data of students such as student ID, name, and surname.

**Number 2** Mode button. There are 2 mode buttons for selecting mode. The first button is the Automatic mode in case the user desires to use the system with the feeder automatically. The second button is the manual mode in case the user desires to use hand to feed the paper instead of feeder.

**Number 3** Paper form button. There are 2 form buttons for selecting the form. The first button is A4 paper form in case the user desires to check the exam in A4 form. The second button is A5 paper form in case the user desires to check the exam in A5 form.

**Number 4** Choice form button. There are 2 form buttons for selecting the form. The first button is "ABCD" form which is 4 choices form in case the user desires to check the exam in 4 choices. The

second button is “ABCDE” form which is 5 choices form in case the user desires to check the exam 5 choices.

**Number 5** Paper Set. There are 2 sets. Set1, is used for subjects that require questions under 200 questions. Set2, is used for subjects that require more than 200 questions.

**Number 6** Academic input field. There are 4 input fields. First is use for entering the academic year. Second is use for entering the semester. Third is use for entering subject code. Fourth is use for entering the section.

**Number 7** Input questions field. There are 2 input fields for questions. First is used for entering the number of questions which A4 has a maximum of 200 questions and A5 has a maximum of 120 questions. Second is used for entering the number of parts.

**Number 8** Display image field. There are 3 images for display in the field. First is for displaying images from the camera. Second is for displaying the student ID which extracts number from program. Third is for displaying the score which extract and calculate from program.

**Number 9** Property display box. The box is used for displaying the property which user click button or enter data in the field.

**Number 10** Process display box. The box is used for displaying the process and data of each student such as name, surname, student ID, process of program, and score.

**Number 11** Start button. The start button is used for the automatic mode only and after entering data all the properties. It will start the feeder to feed paper automatically.

**Number 12** Stop button. The stop button is used when the user desires to stop feeding paper or occur problem with the paper while feeding.

**Number 13** Clear button. The clear button is used when the user enters wrong data or clicks wrong button, the clear button will clear all the data that user enters or clicks.

**Number 14** Finish button. The finish button is used when the user finishes feeding paper. The program will summarize the score, statistics, save data, and plot graph.

## 2. Procedure for using the program (Manual mode).

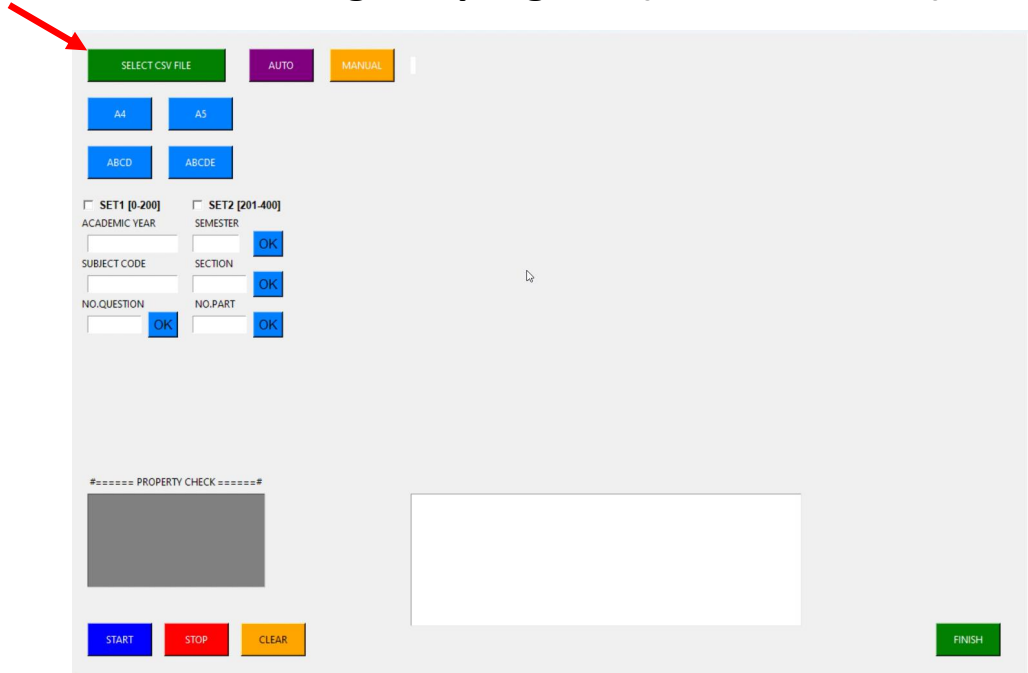


Figure 2.1 Click the “Select CSV file” button.

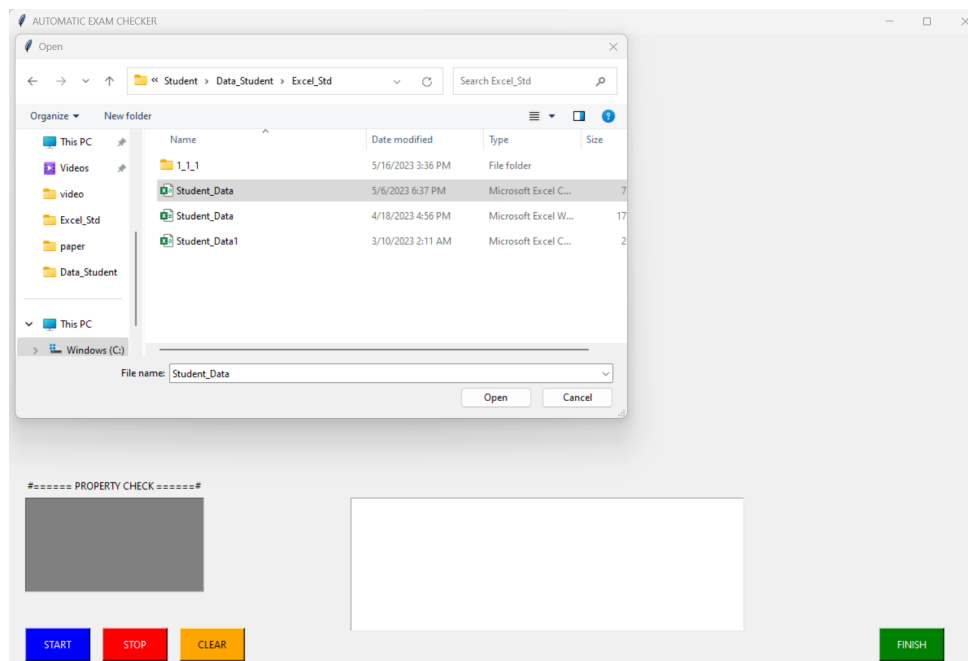


Figure 2.2 Open file location and select csv file.

	A	B	C	D
1	No	Student_ID	Name	Surname
2	1	6101023610025	JAKKRAPAN	KANCHANANIYOM
3	2	6101023611030	LAKSIKA	TOOPHUM
4	3	6101023630034	NITHIKORN	PRYMANEE
5	4	6201023610024	CHINNAWAT	ZALEA
6	5	6201023610032	DON	DAWAN
7	6	6201023610041	THANUN	CHASAWATDITHAN
8	7	6201023610075	NETINUN	MARNEERUNG
9	8	6201023610083	BURIT	LIMSAMRAN
10	9	6201023610105	SIRIPONG	TRIPUTHANGKUL
11	10	6201023610121	KITTAPON	PAMA
12	11	6201023610130	KOLPAT	BOONLEUA
13	12	6201023610148	NAPAT	KITHENG
14	13	6201023610156	PANACHAI	THONGPAIWAN
15	14	6201023610164	PANITHAN	CHANTUBTIM
16	15	6201023610199	PUTTIDON	JETAWATTANA
17	16	6201023611012	KANYANUT	WATTANAKUL
18	17	6201023611021	KOSITIPAT	SUWANNAROD
19	18	6201023611039	JANTRAPORN	AIEMSAKUL
20	19	6201023611047	TITIWAT	SOMSUANJIT
21	20	6201023611055	THAKSIN	CHONWITTHAYASITT
22	21	6201023611071	NETCHANOK	SIMCHAROEN
23	22	6201023611080	PIYAPOL	THONGKLAO
24	23	6201023611101	SUGREE	LERTANANPIPAT
25	24	6201023611128	JATURON	ITTIPOL

Figure 2.3 The data in CSV file

1. Click the “Select CSV file” button as shown in Figure 2.1 and the program will pop-up window for open file location then find the location of CSV file as shown in Figure 2.2.

**\*\*Note: The CSV file must contain data such as student ID, name, and surname as shown in Figure 2.3. In case the data is an excel file, user must convert excel file to a CSV file to avoid any error occurring in the program.**

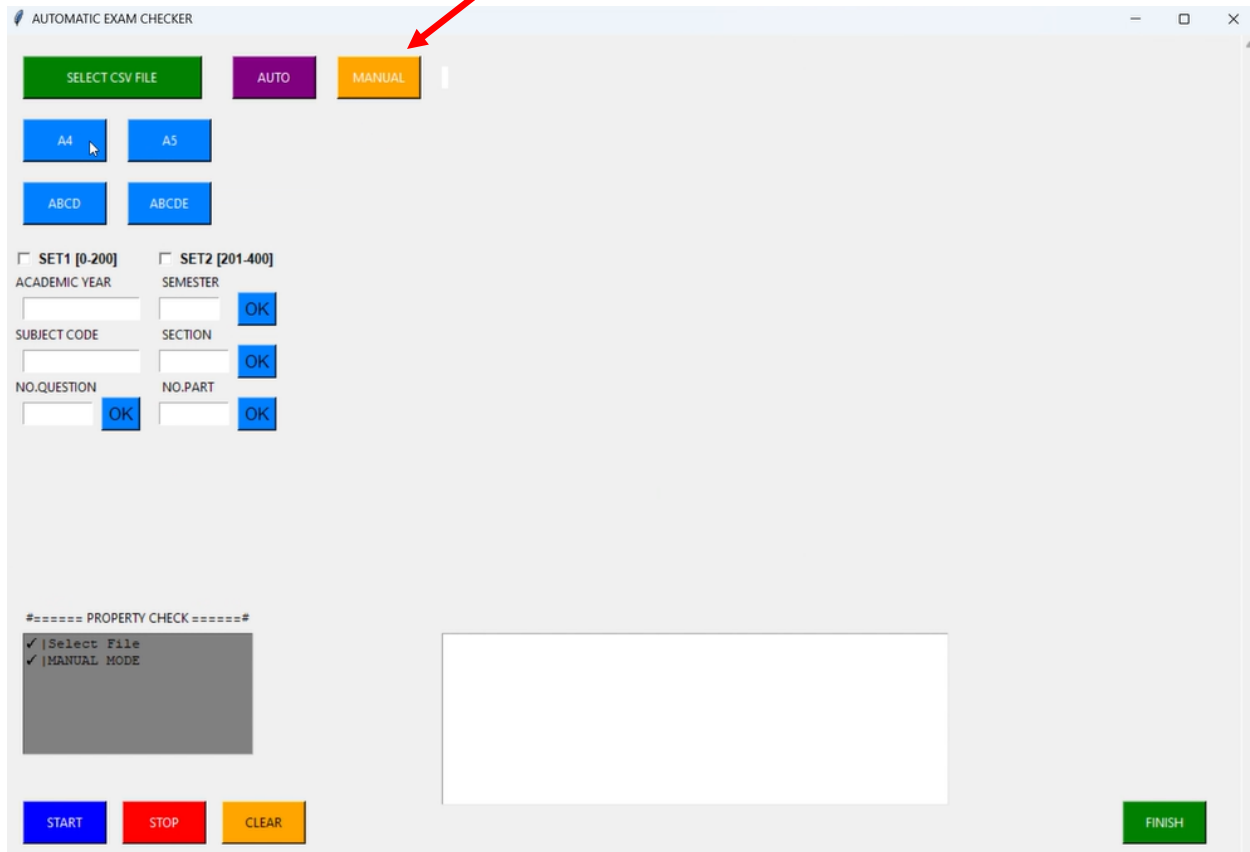


Figure 2.4 Click the “Manual mode” button.

2. Click the “Manual” button to select the manual mode as shown in Figure 2.4. In case the user desires to use hand to feed the paper.

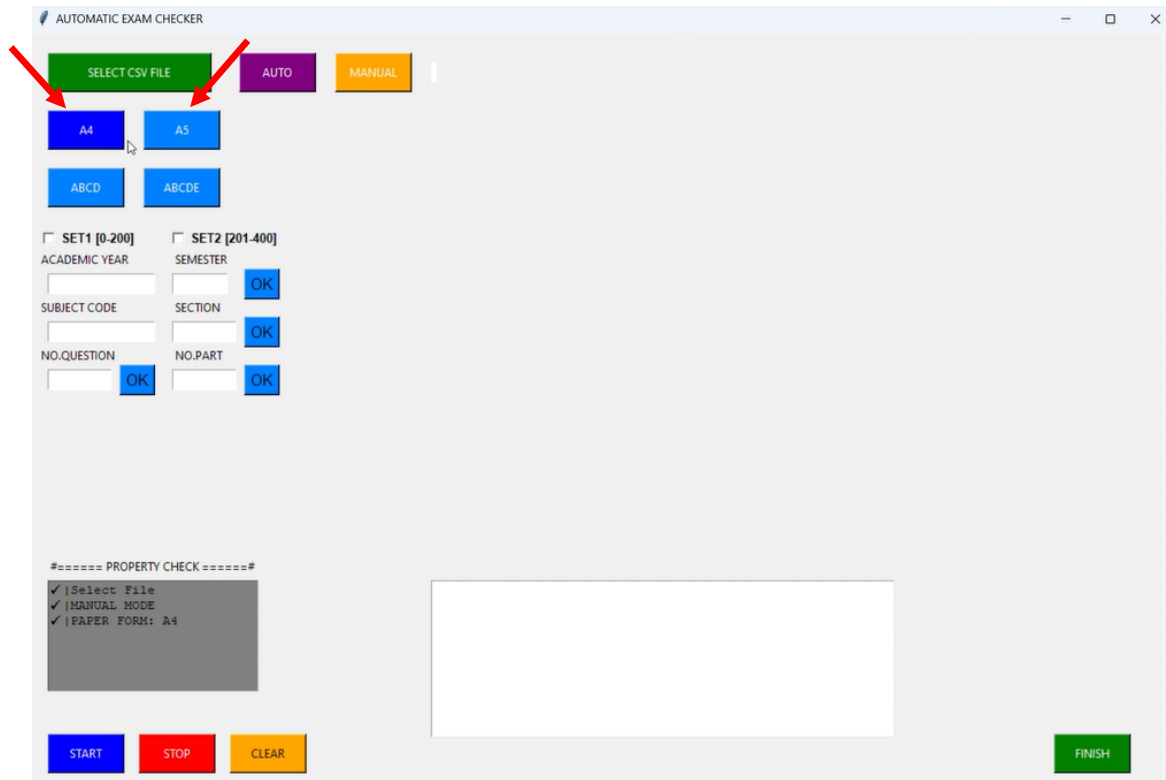


Figure 2.5 Click “A4” or “A5” buttons.

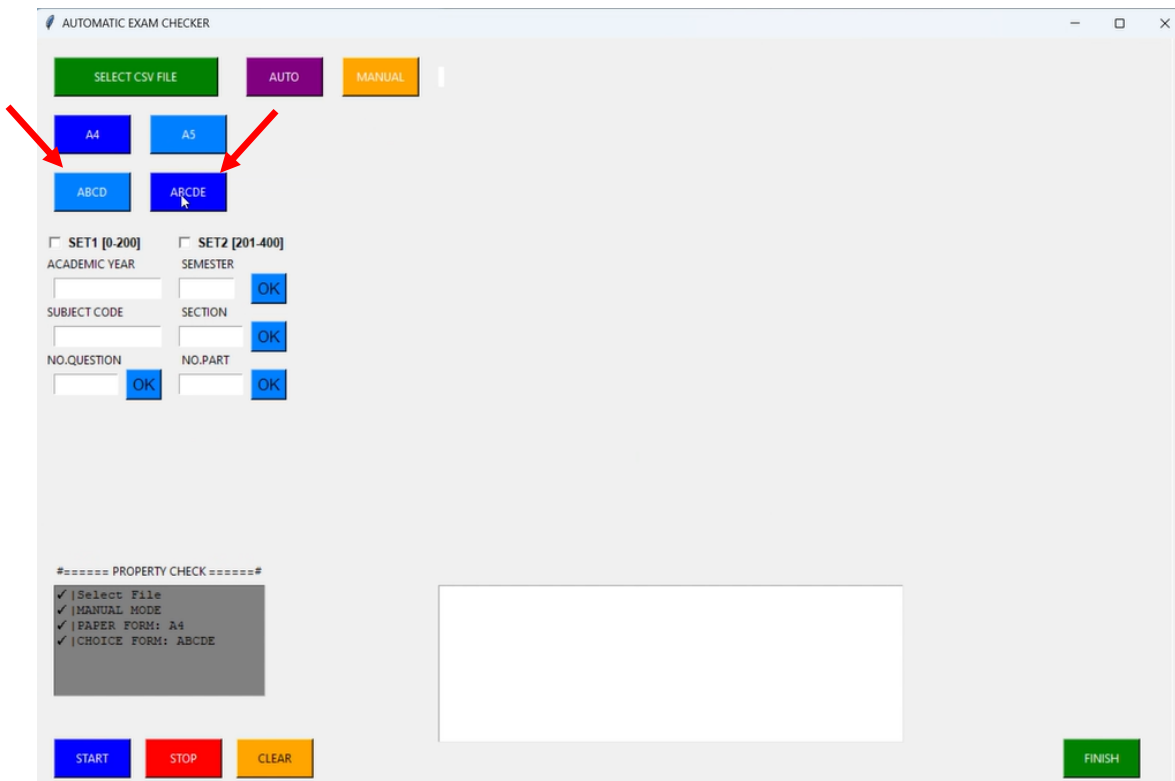


Figure 2.6 Click “ABCD” or “ABCDE” buttons.



3. Click the “A4” or “A5” buttons to select the paper form. For example, in this case click the “A4” to select the A4 form paper as shown in Figure 2.5.

4. Click the “ABCD” or “ABCDE” buttons to select the choices form. For example, in this case click the “ABCDE” to select the 5 choices form as shown in Figure 2.6.

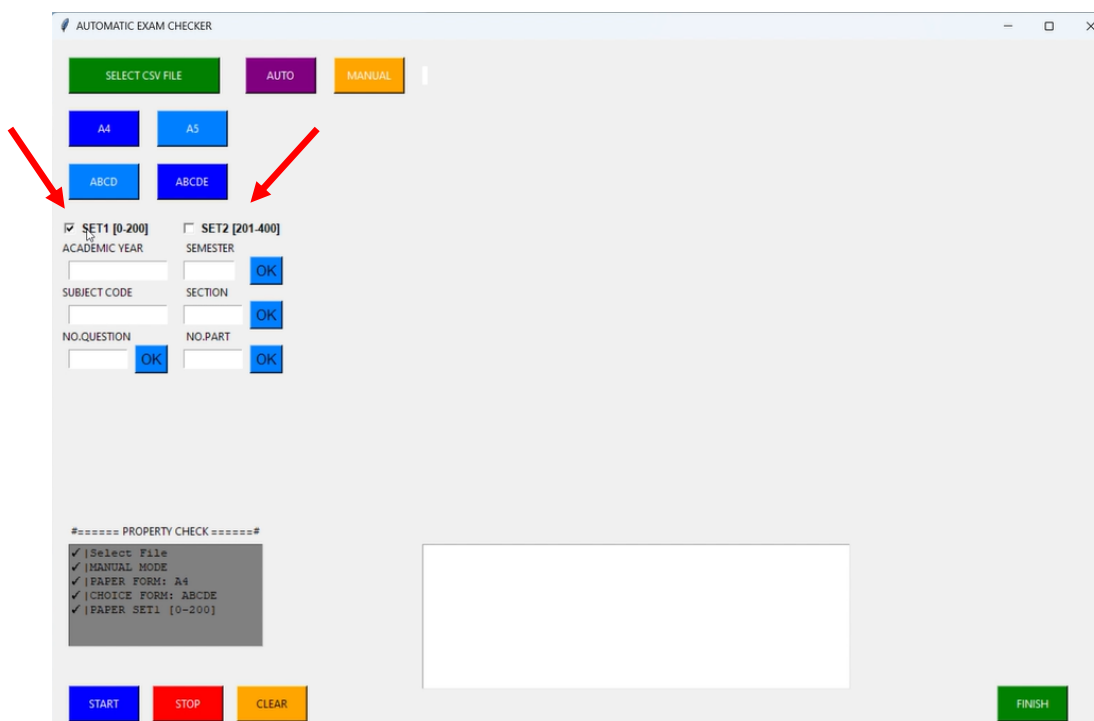


Figure 2.7 Click “SET1” or “SET2” buttons.

5. Click the “SET1” or “SET2” checkbox to select the paper form. For example, in this case click the “SET1” to select the form paper which is under 200 questions as shown in Figure 2.7.

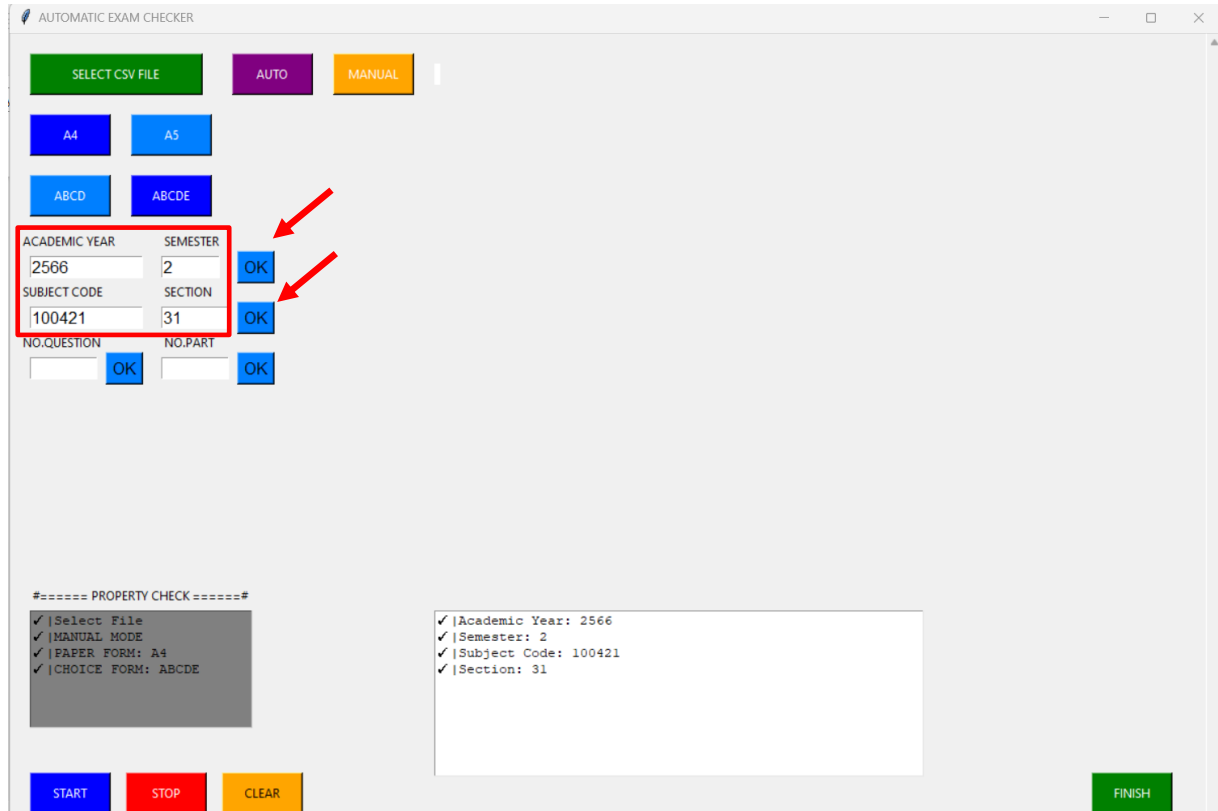


Figure 2.8 Enter the data in the field then click “OK” buttons.

6. Enter the data in the box field then click “OK” buttons. For example, in this case the user enters 2566 for academic year, 2 for semester, 100421 for subject code, and 31 for section as shown in Figure 2.7.

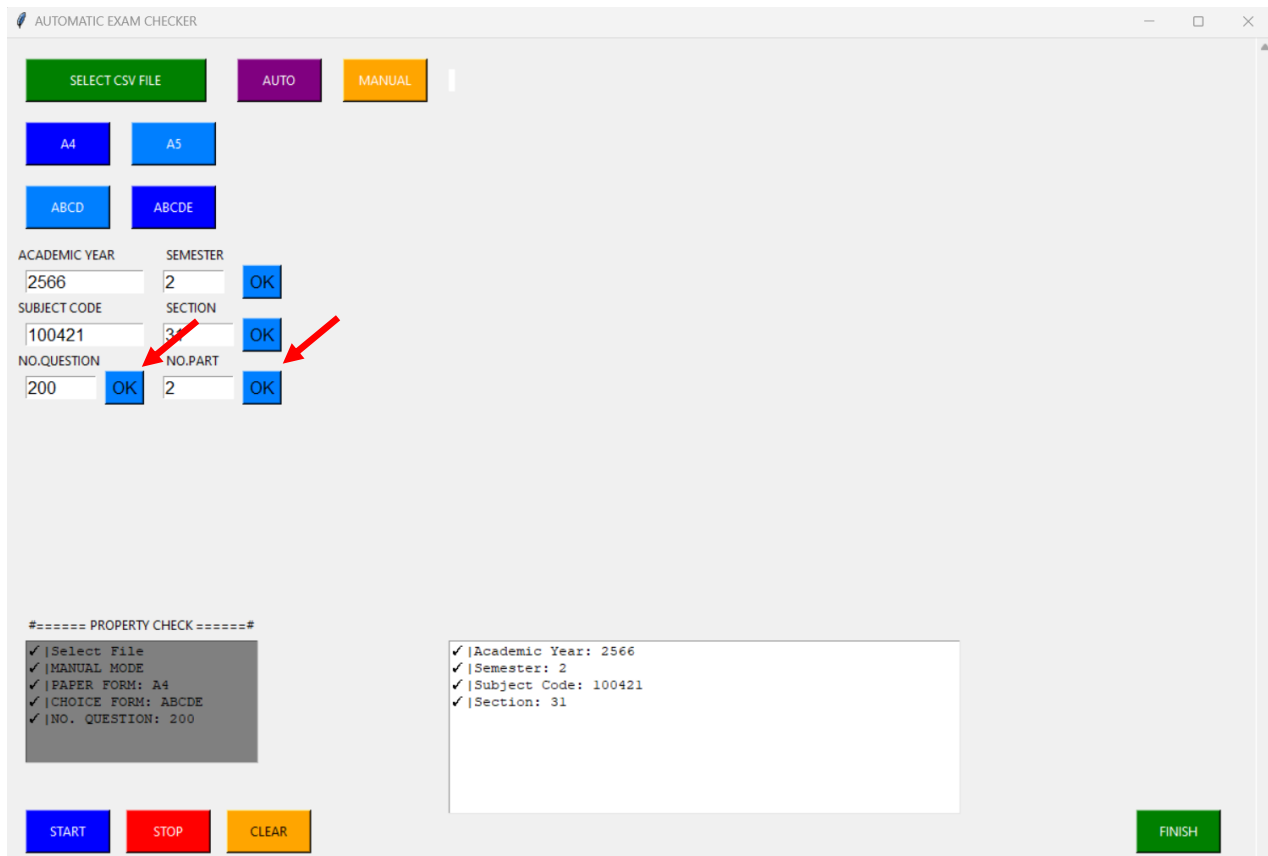
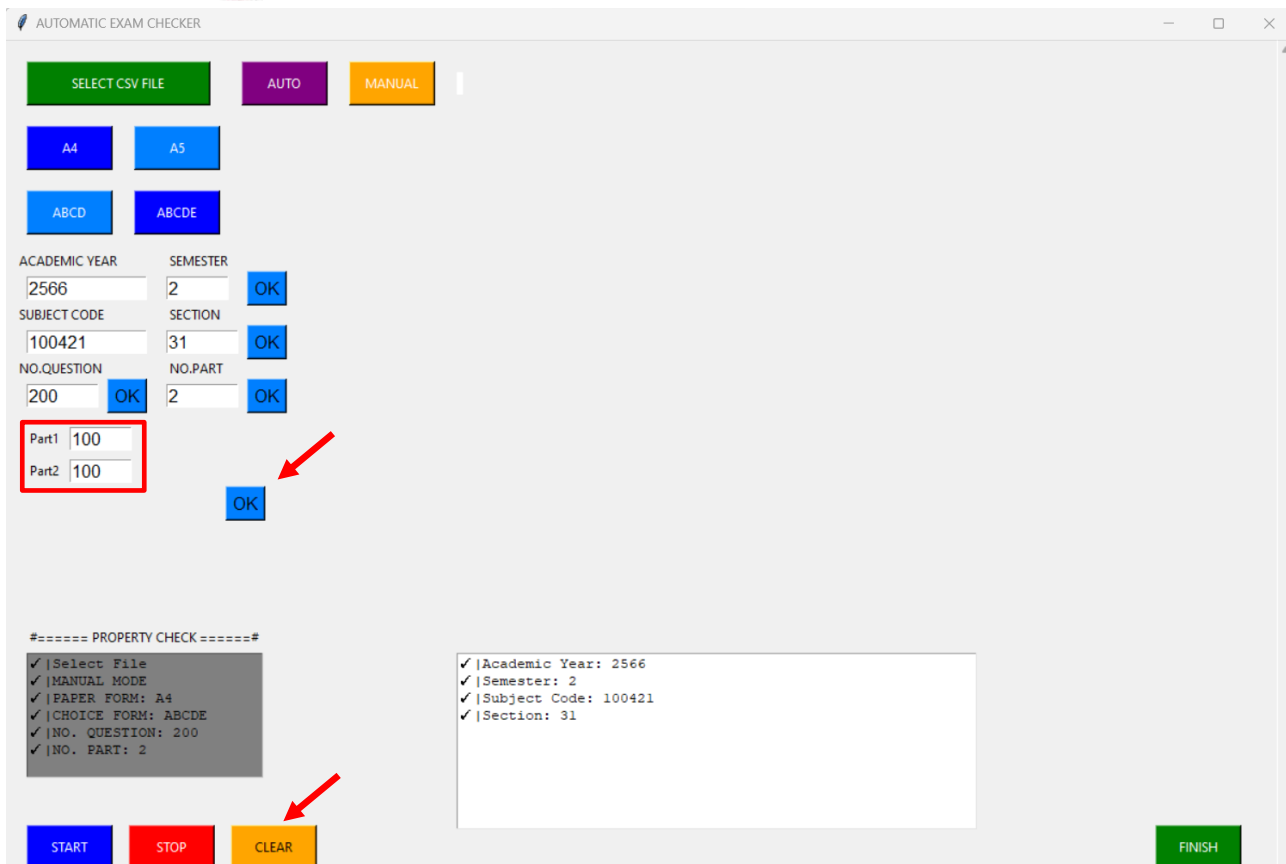


Figure 2.9 Enter number of questions and number of parts then click “OK” button.

7. Enter the number of questions and number of parts then click “OK” buttons. For example, in this case the user enters 200 for the number of questions and 2 for number of parts as shown in Figure 2.8.



The screenshot shows the 'AUTOMATIC EXAM CHECKER' window. At the top, there are buttons for 'SELECT CSV FILE', 'AUTO', and 'MANUAL'. Below these are buttons for 'A4', 'A5', 'ABCD', and 'ABCDE'. The input section includes fields for 'ACADEMIC YEAR' (2566), 'SEMESTER' (2), 'SUBJECT CODE' (100421), 'SECTION' (31), 'NO. QUESTION' (200), and 'NO. PART' (2). Below these are two rows for 'Part1' and 'Part2', each with a text input field containing '100' and an 'OK' button. A red arrow points to the 'OK' button for 'Part2'. At the bottom, there are 'START', 'STOP', 'CLEAR', and 'FINISH' buttons. A red arrow points to the 'CLEAR' button. On the left, a 'PROPERTY CHECK' box lists several checked items. On the right, a box displays the entered values.

ACADEMIC YEAR: 2566  
SEMESTER: 2  
SUBJECT CODE: 100421  
SECTION: 31  
NO. QUESTION: 200  
NO. PART: 2

Part1: 100  
Part2: 100

PROPERTY CHECK:

- ✓ |Select File
- ✓ |MANUAL MODE
- ✓ |PAPER FORM: A4
- ✓ |CHOICE FORM: ABCDE
- ✓ |NO. QUESTION: 200
- ✓ |NO. PART: 2

Academic Year: 2566  
Semester: 2  
Subject Code: 100421  
Section: 31

Figure 2.10 Enter number of questions in each part then click “OK” button.

8. After clicking “OK” button of Number of parts, the program will show box and button to enter the number of questions in each part then click “OK” button. For example, in this case the user enters 100 for part1 and 100 for part2 as show in Figure 2.9.

**\*\*Note:** If user needs to clear data which input above, the “CLEAR” button will be used for clear the data **but need to clear before clicking “OK” in number question in each part (need to clear before open camera to avoid any error occur in program).**

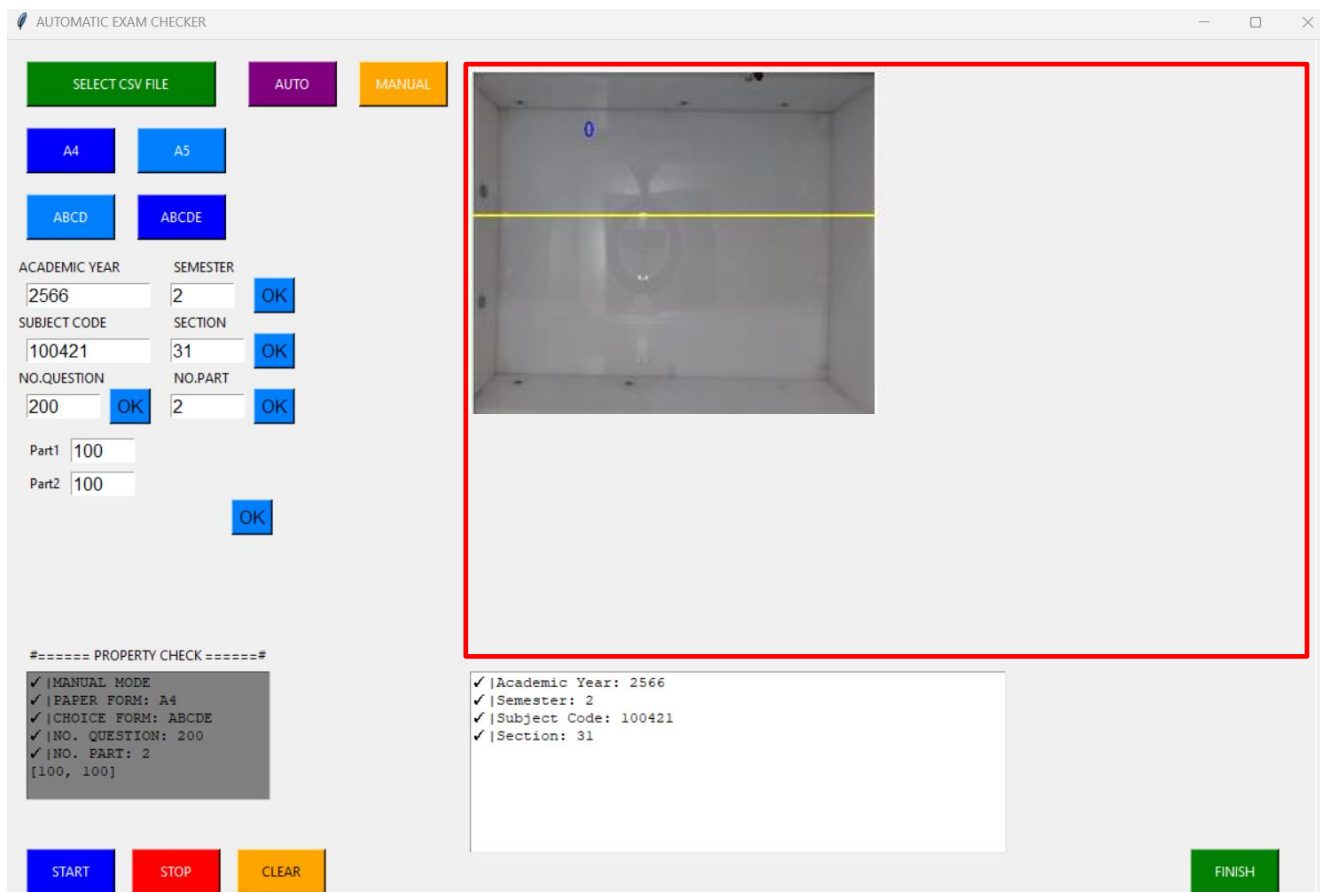


Figure 2.11 Camera open after input all properties.

9. The camera will open in the display image field to check the score after inputting all properties.

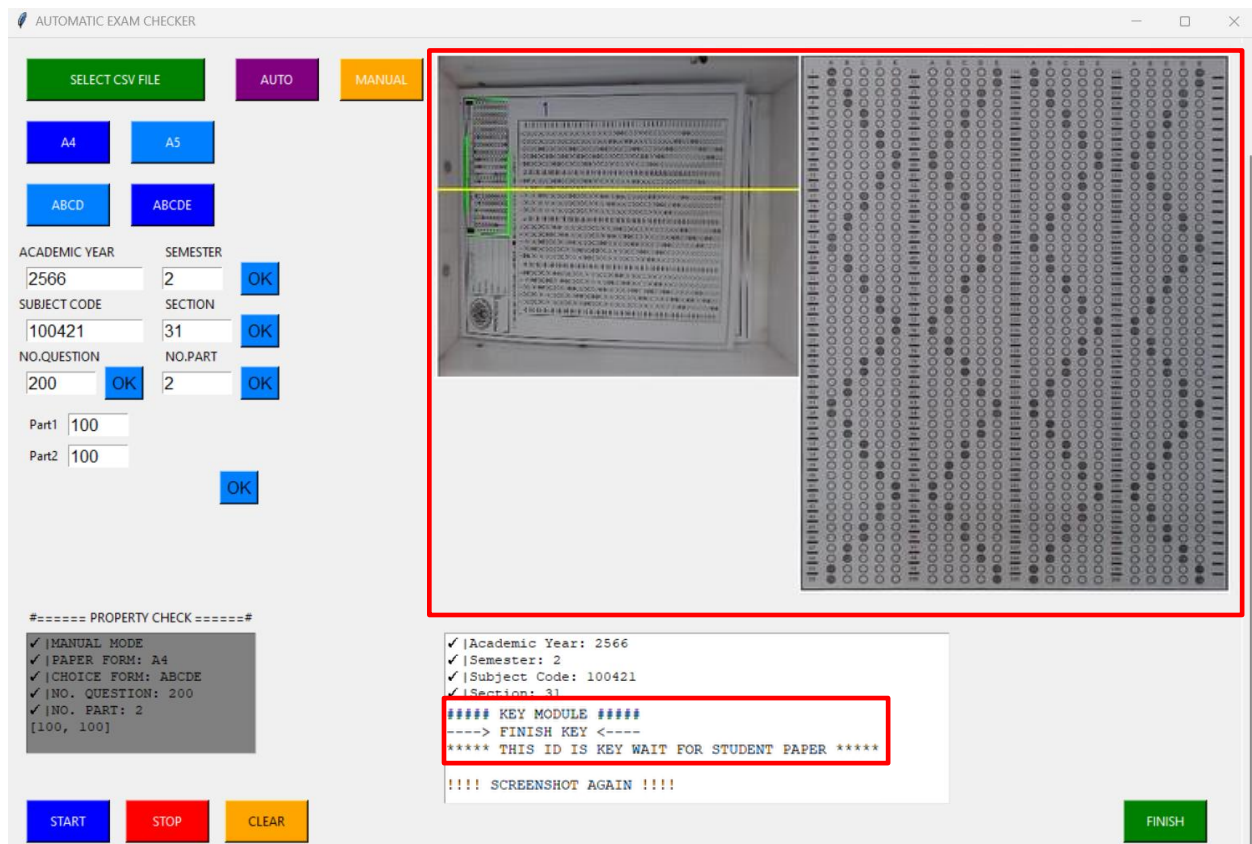


Figure 2.12 Feed key paper before feed student paper.

10. Feed the key paper to ensure that the program saves the key for checking score as shown in Figure 2.12. The ID of key paper must fill in the circle number 0 all digits.

AUTOMATIC EXAM CHECKER

SELECT CSV FILE AUTO MANUAL

A4 A5

ABCD ABCDE

ACADEMIC YEAR SEMESTER  
2566 2 OK

SUBJECT CODE SECTION  
100421 31 OK

NO.QUESTION NO.PART  
200 2 OK

Part1 100  
Part2 100 OK

OK

#===== PROPERTY CHECK =====#

✓ | MANUAL MODE  
✓ | PAPER FORM: A4  
✓ | CHOICE FORM: ABCDE  
✓ | NO. QUESTION: 200  
✓ | NO. PART: 2  
[100, 100]

START STOP CLEAR

FINISH

6201021620090 Student ID

Score: 84/200

Correct: 84 | Wrong: 116

Correct[%]: 42.0% | Wrong[%]: 57.99999999999999%

Figure 2.13 Feed student paper to check the score.

11. After feeding key paper, the user needs to feed student paper to check the score. For example, in this case the student paper has data, name is KITSANA BAYJAROEN, ID is 6201021620090, and score is 84/200 as shown in Figure 2.13.



AUTOMATIC EXAM CHECKER

SELECT CSV FILE AUTO MANUAL

A4 A5

ABCD ABCDE

ACADEMIC YEAR SEMESTER  
2566 2 OK

SUBJECT CODE SECTION  
100421 31 OK

NO. QUESTION NO. PART  
200 2 OK

Part1 100  
Part2 100 OK

#===== PROPERTY CHECK =====#

- ✓ [MANUAL MODE]
- ✓ [PAPER FORM: A4]
- ✓ [CHOICE FORM: ABCDE]
- ✓ [NO. QUESTION: 200]
- ✓ [NO. PART: 2]
- [100, 100]

START STOP CLEAR

===== Student:10 =====  
Name:KITSANA BAYJAROEN  
-----  
#### CALCULATE SCORE ####  
Score:84/200  
Correct: 84 |Wrong: 116  
Correct[%]: 42.0% | Wrong[%]: 57.99999999999999%

FINISH

Figure 2.14 Click “FINISH” button after finish check score.

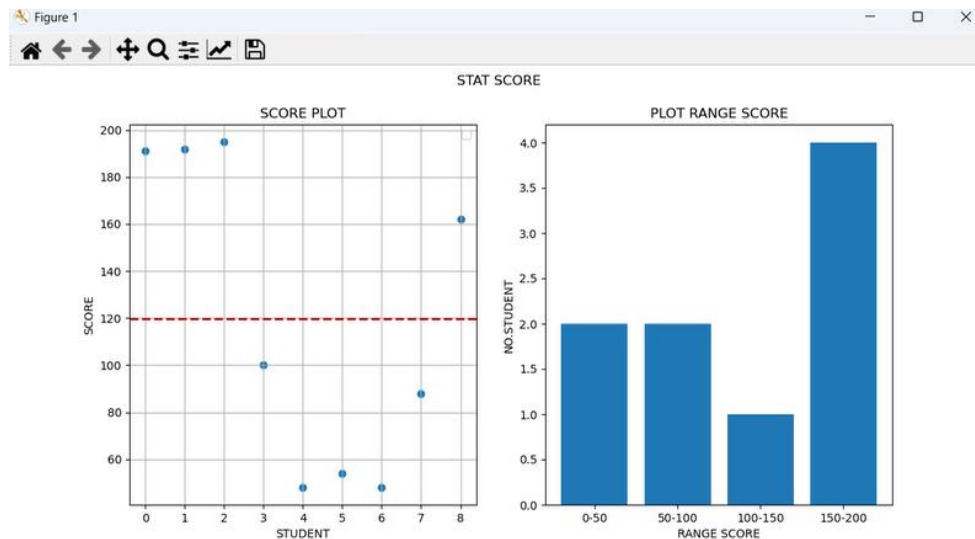


Figure 2.15 Graph shows after Click “FINISH” button.



12. After finish feeding paper click “FINISH” button to calculate the statistic, plot graph and save data such as image score, csv file, and reject paper as shown as Figure 2.14 and Figure 2.15.

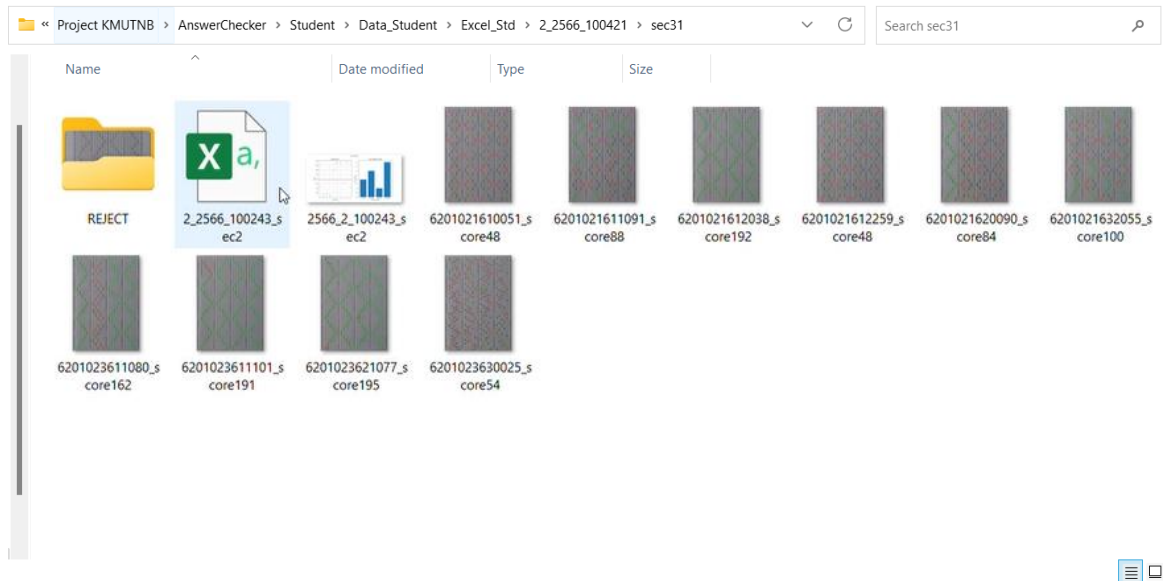


Figure 2.16 The data saved in folder.

13. The program will automatically create folder for save the data such as image score, graph, csv file, and reject paper will be saved in the folder as shown in Figure 2.16 which the location is in the user selects from **step 1**.

### 3. Procedure for using the program (Auto mode).

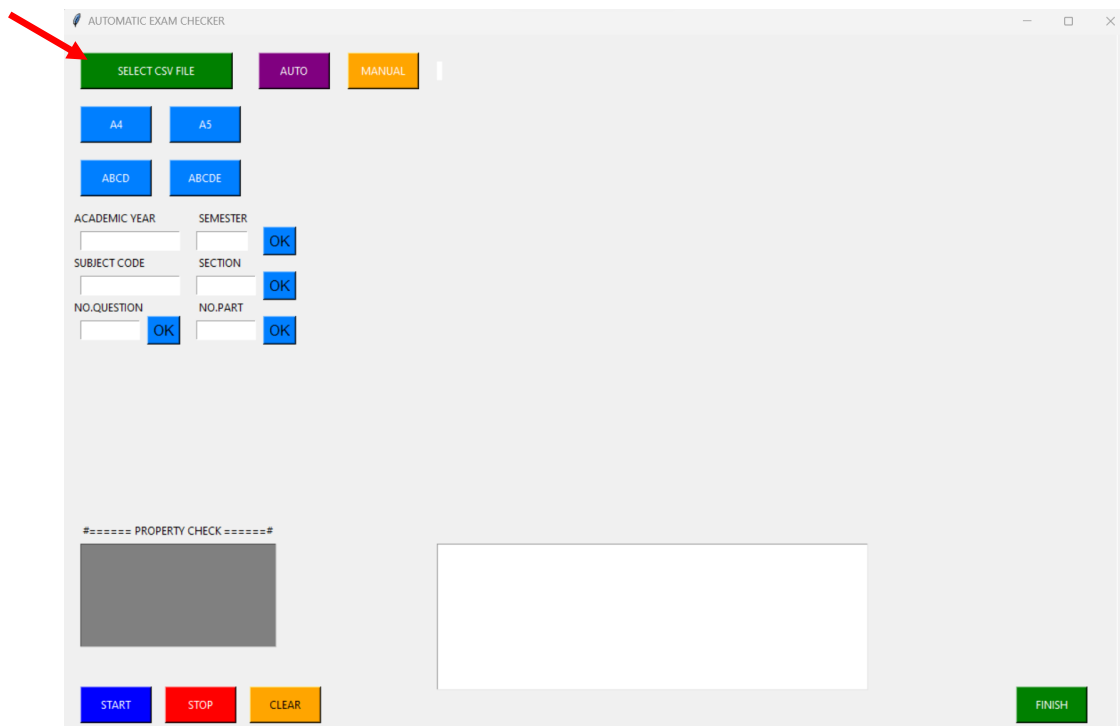


Figure 3.1 Click the “Select CSV file” button.

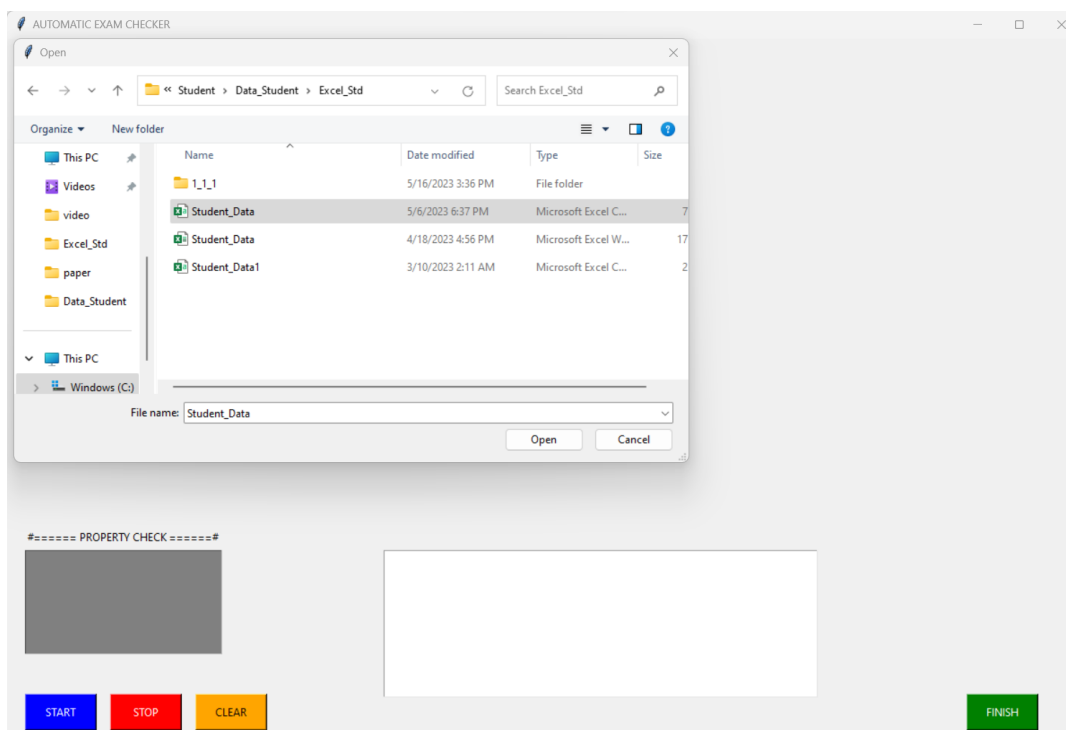


Figure 3.2 Open file location and select csv file.

	A	B	C	D
1	No	Student_ID	Name	Surname
2	1	6101023610025	JAKKRAPAN	KANCHANANIYOM
3	2	6101023611030	LAKSIKA	TOOPHUM
4	3	6101023630034	NITHIKORN	PRYMANEE
5	4	6201023610024	CHINNAWAT	ZALEA
6	5	6201023610032	DON	DAWAN
7	6	6201023610041	THANUN	CHASAWATDITHAN
8	7	6201023610075	NETINUN	MARNEERUNG
9	8	6201023610083	BURIT	LIMSAMRAN
10	9	6201023610105	SIRIPONG	TRIPUTHANGKUL
11	10	6201023610121	KITTAPON	PAMA
12	11	6201023610130	KOLPAT	BOONLEUA
13	12	6201023610148	NAPAT	KITHENG
14	13	6201023610156	PANACHAI	THONGPAIWAN
15	14	6201023610164	PANITHAN	CHANTUBTIM
16	15	6201023610199	PUTTIDON	JETAWATTANA
17	16	6201023611012	KANYANUT	WATTANAKUL
18	17	6201023611021	KOSITIPAT	SUWANNAROD
19	18	6201023611039	JANTRAPORN	AIEMSAKUL
20	19	6201023611047	TITIWAT	SOMSUANJIT
21	20	6201023611055	THAKSIN	CHONWITTHAYASITT
22	21	6201023611071	NETCHANOK	SIMCHAROEN
23	22	6201023611080	PIYAPOL	THONGKLAO
24	23	6201023611101	SUGREE	LERTANANPIPAT
25	24	6201023611128	JATURON	ITTIPOL

Figure 3.3 The data in CSV file

1. Click the “Select CSV file” button as shown in Figure 3.1 and the program will pop-up window for open file location then find the location of CSV file as shown in Figure 3.2.

**\*\*Note: The CSV file must contain data such as student ID, name, and surname as shown in Figure 3.3. In case the data is an excel file, user must convert excel file to a CSV file to avoid any error occurring in the program.**

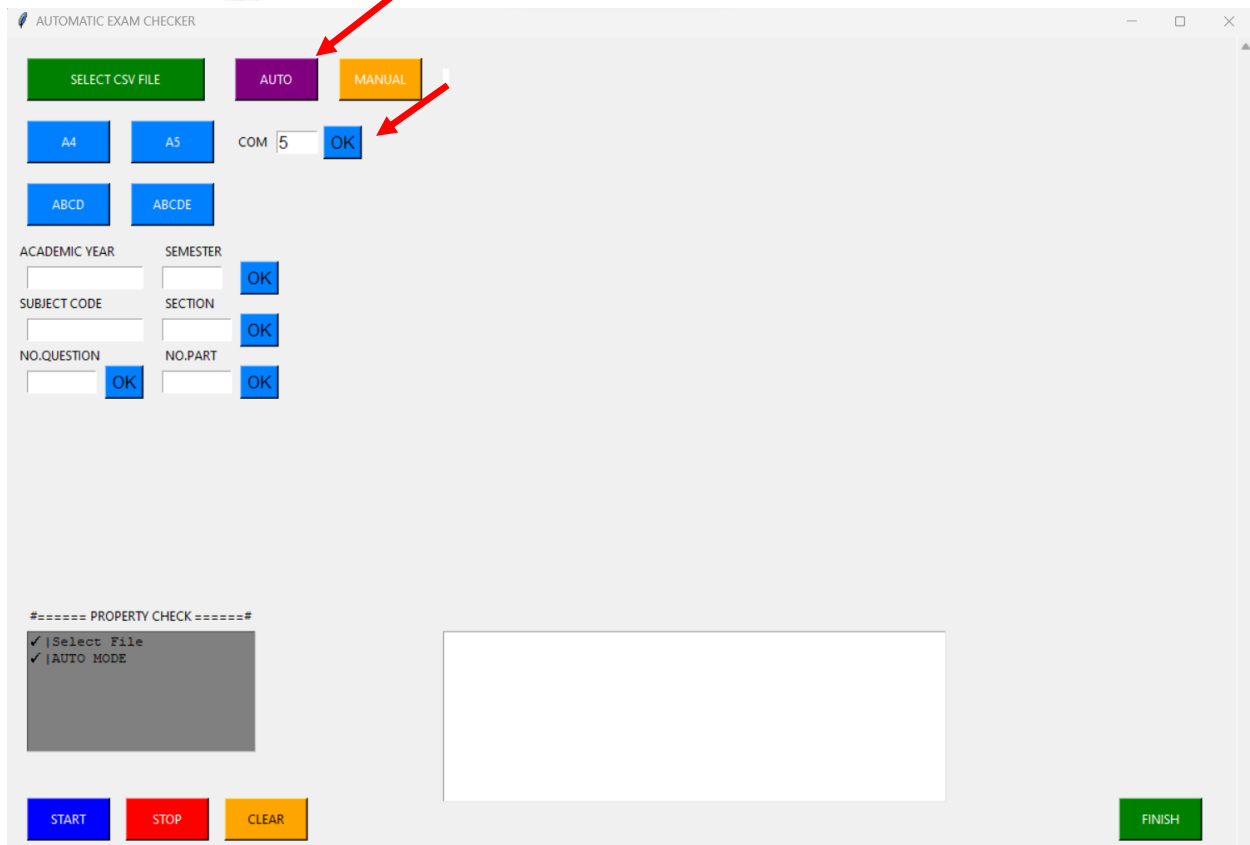
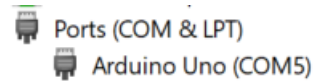


Figure 3.4 Click the “Auto mode” button.

2. Click the “Auto” button to select the automatic mode as shown in Figure 3.4. In case the user desires to use feeder to feed the paper.

After selecting the auto mode. The box and button will show up for the user can enter the number of ports which the port can be checked in **Device Manager** in **Port (COM & LPT)**



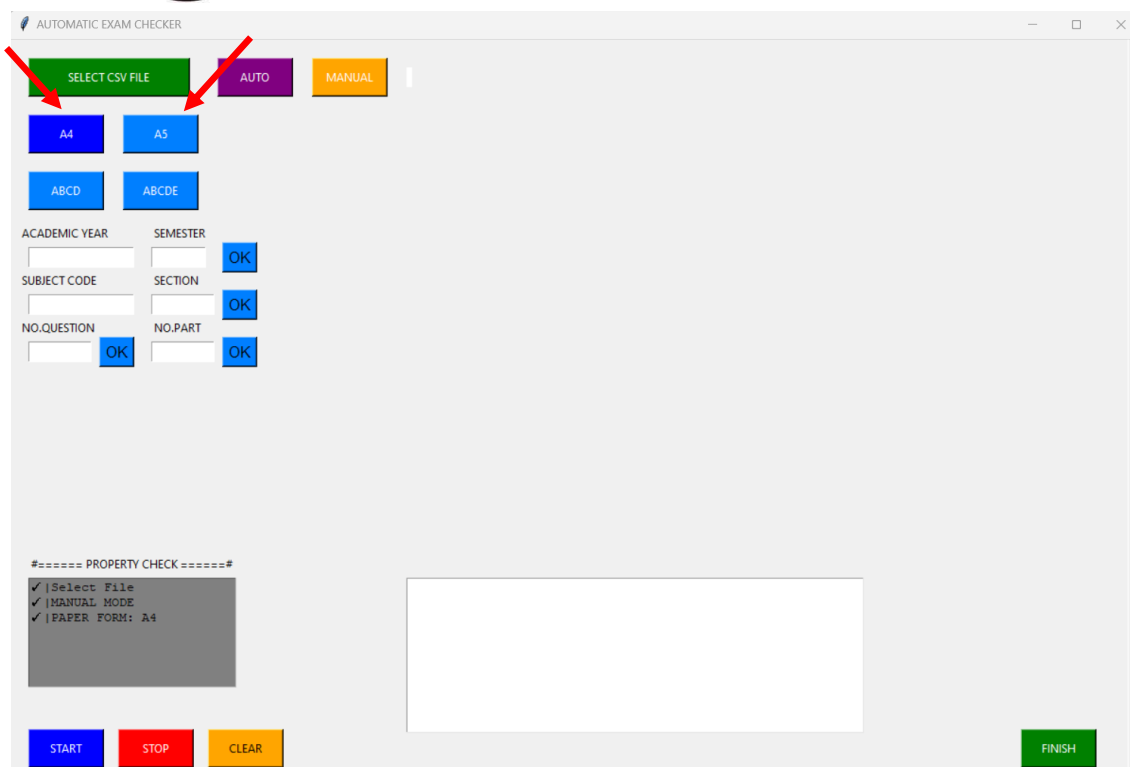


Figure 3.5 Click “A4” or “A5” buttons.

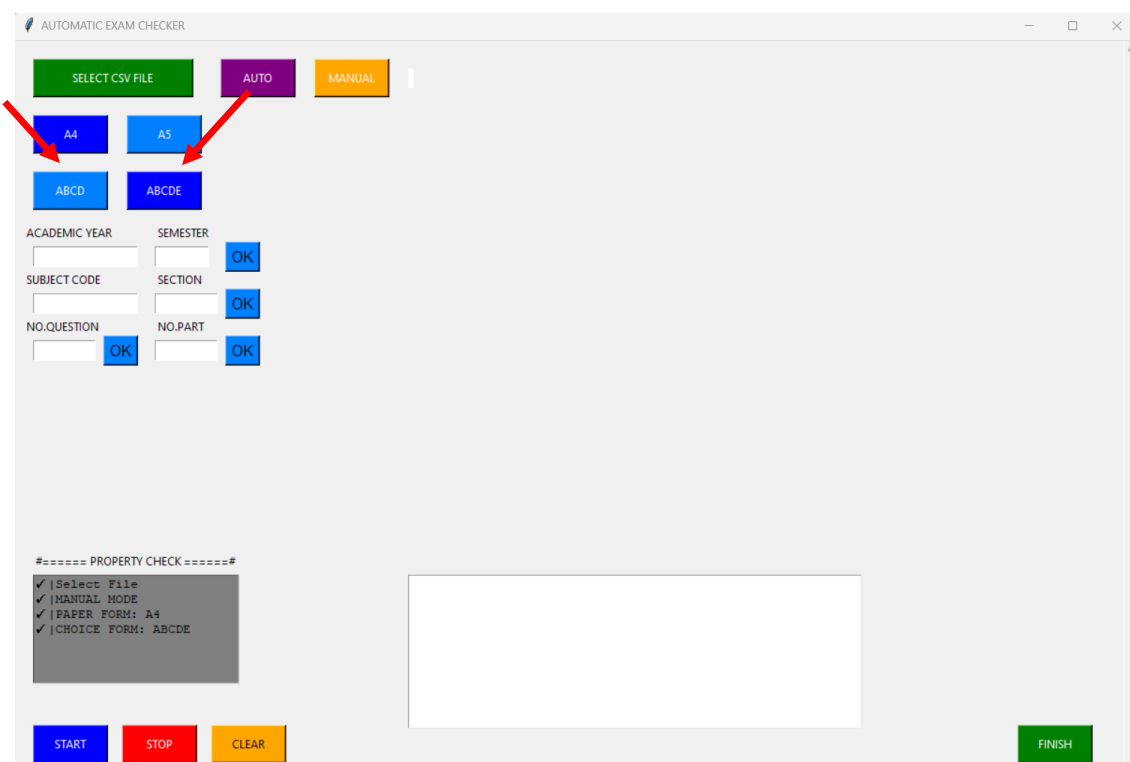


Figure 3.6 Click “ABCD” or “ABCDE” buttons.

3. Click the “A4” or “A5” buttons to select the paper form. For example, in this case click the “A4” to select the A4 form paper as shown in Figure 3.5.

4. Click the “ABCD” or “ABCDE” buttons to select the choices form. For example, in this case click the “ABCDE” to select the 5 choices form as shown in Figure 3.6.

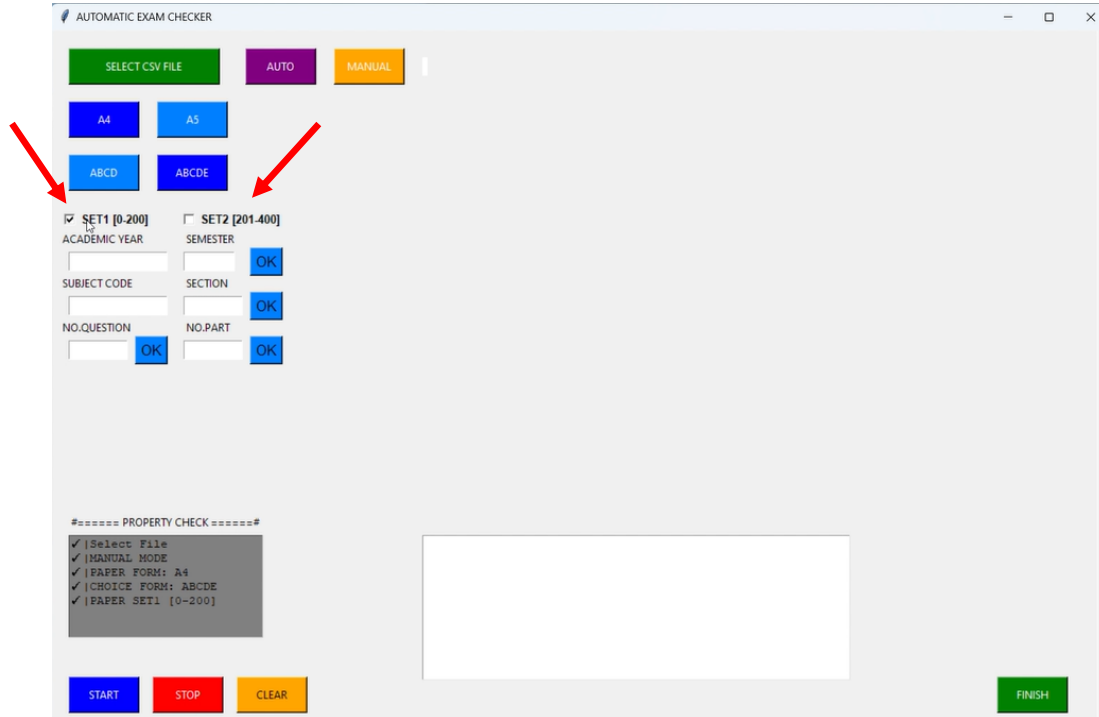


Figure 3.7 Click “SET1” or “SET2” buttons.

5. Click the “SET1” or “SET2” checkbox to select the paper form. For example, in this case click the “SET1” to select the form paper which is under 200 questions as shown in Figure 3.7.

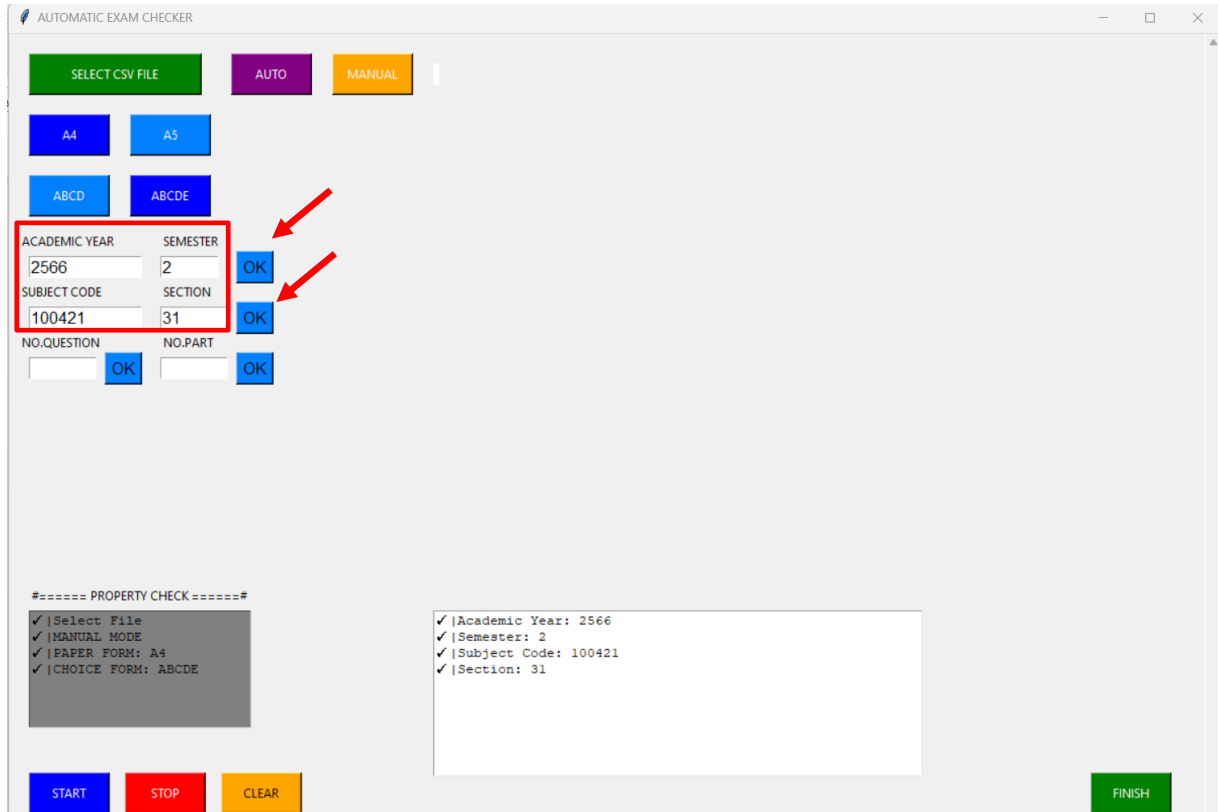


Figure 3.8 Enter the data in the field then click “OK” button.

6. Enter the data in the box field then click “OK” buttons. For example, in this case the user enters 2566 for academic year, 2 for semester, 100421 for subject code, and 31 for section as shown in Figure 3.8.

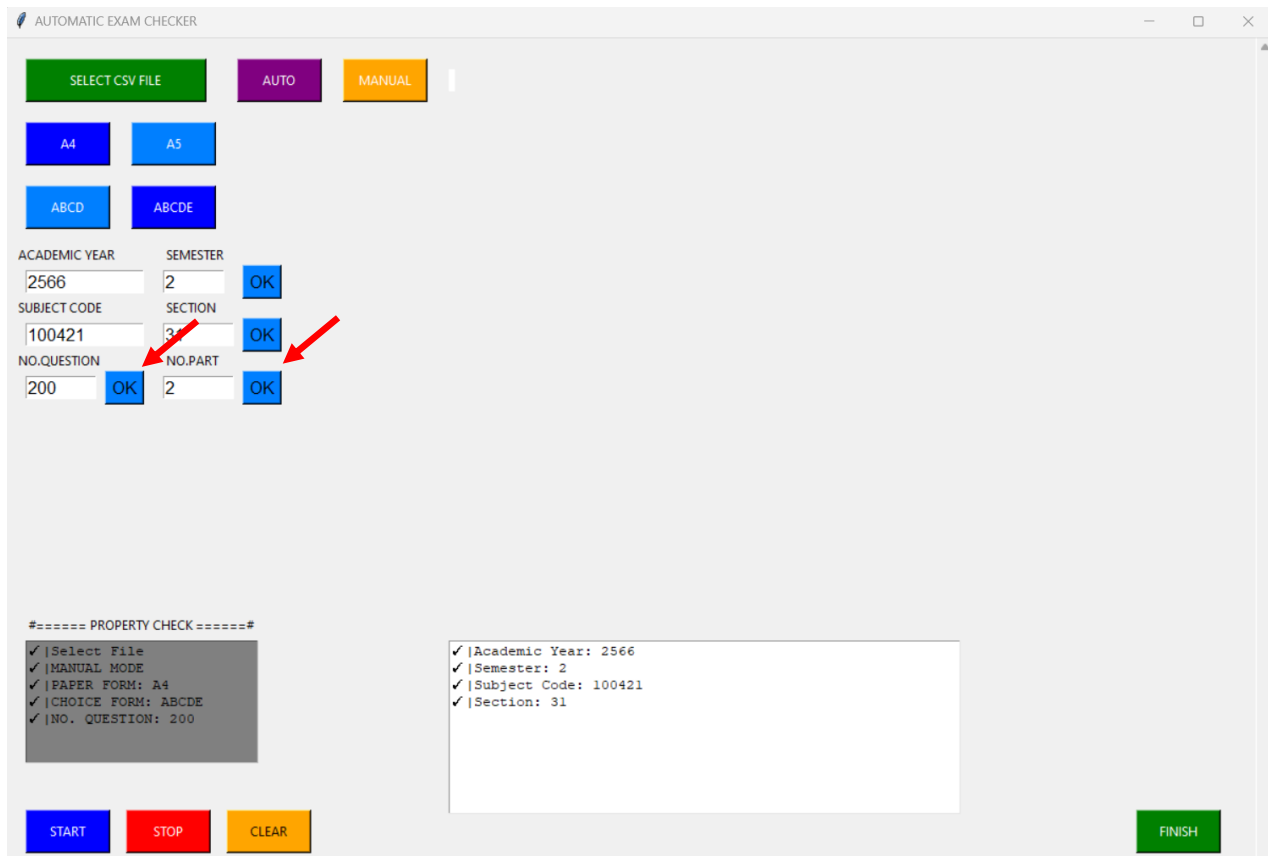


Figure 3.9 Enter number of questions and number of parts then click “OK” button.

7. Enter the number of questions and number of parts then click “OK” buttons. For example, in this case the user enters 200 for the number of questions and 2 for number of parts as shown in Figure 3.9.



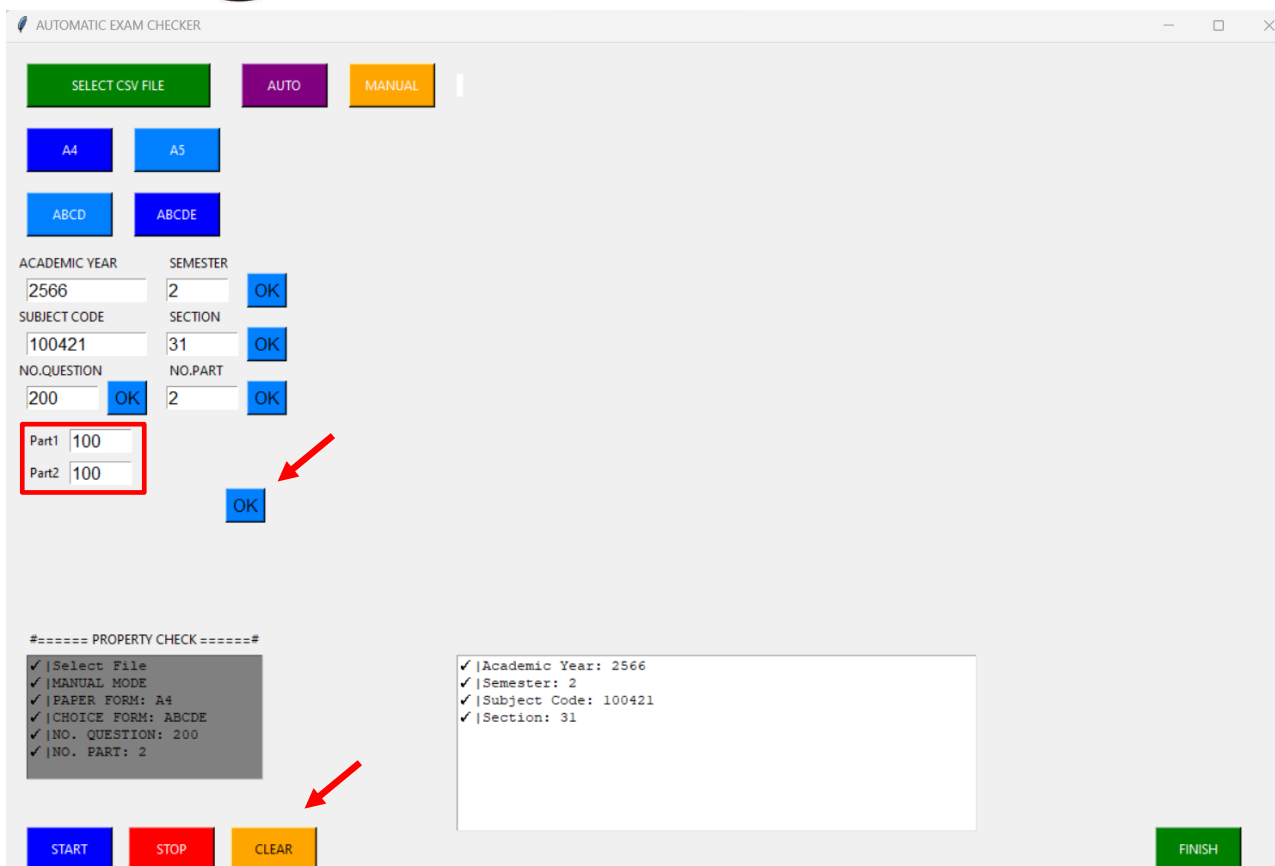


Figure 3.10 Enter number of questions in each part then click “OK” button.

8. After clicking “OK” button of Number of parts, the program will show box and button to enter the number of questions in each part then click “OK” button. For example, in this case the user enters 100 for part1 and 100 for part2 as show in Figure 3.10.

**\*\*Note:** If user needs to clear data which input above, the “CLEAR” button will be used for clear the data **but need to clear before clicking “OK” in number question in each part (need to clear before open camera to avoid any error occur in program).**

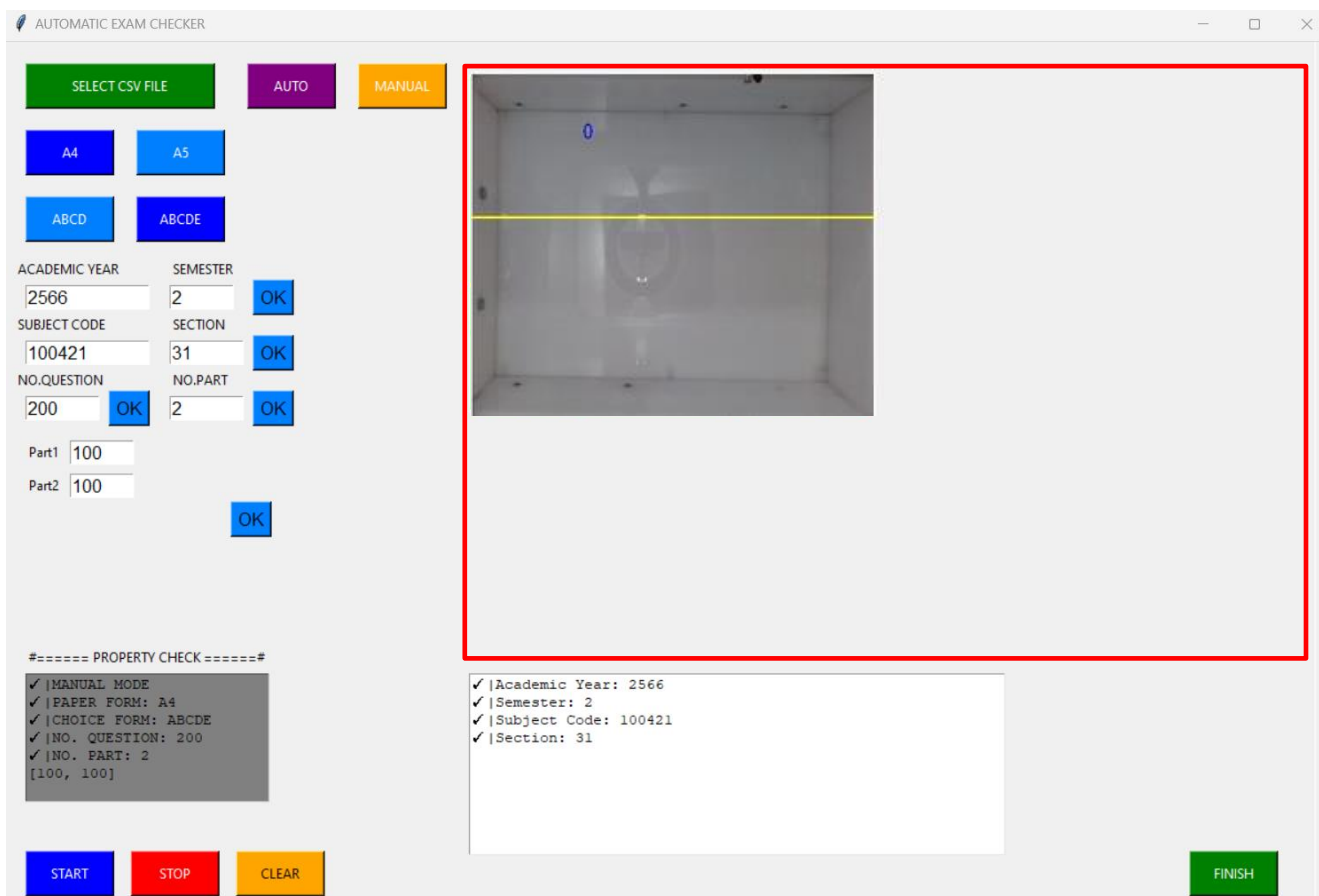


Figure 3.11 Camera open after input all properties.

9. The camera will open in the display image field to check the score after inputting all properties as shown in Figure 3.11.

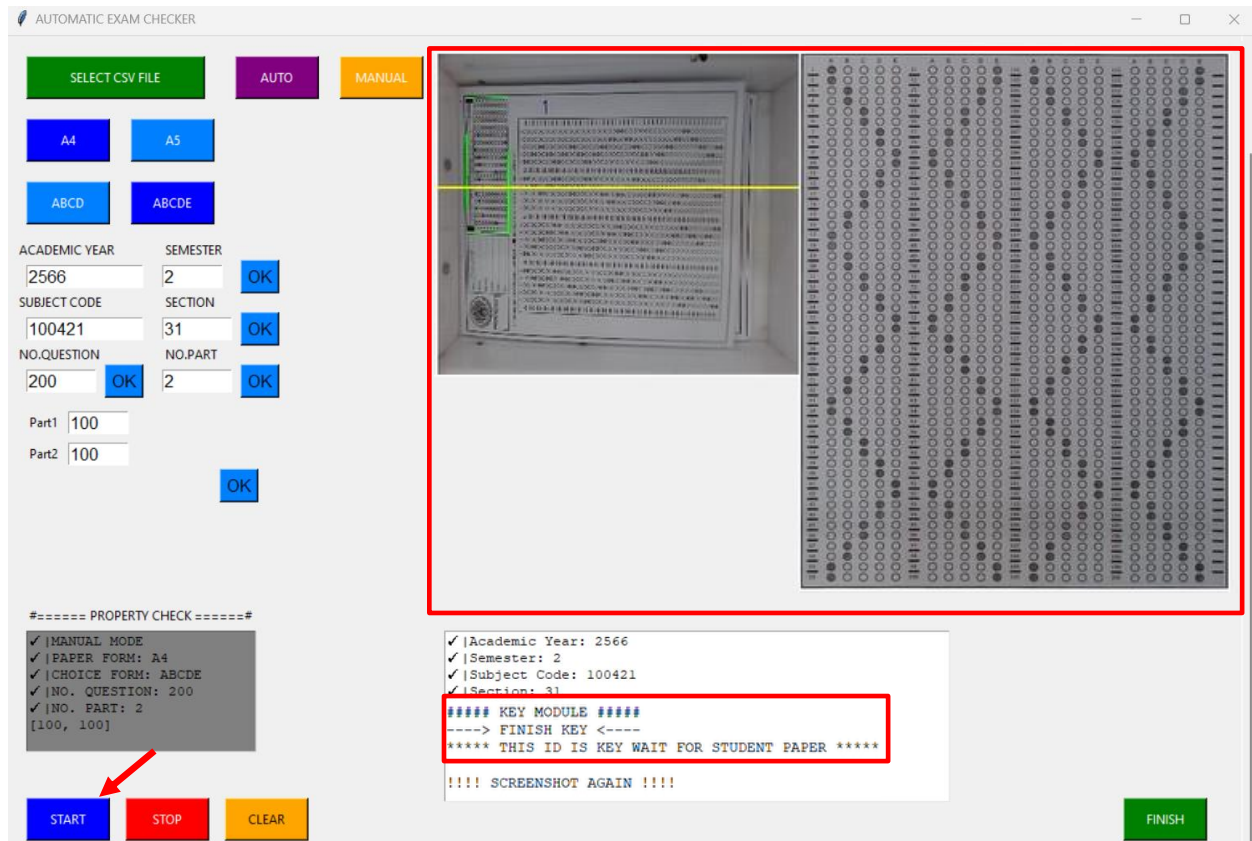


Figure 3.12 Click “Start” to Feed key paper and student paper automatically (only auto mode).

10. Click “Start” button to use feeder to feed the paper automatically. The first paper must be key paper to ensure that the program saves key for checking score as shown in Figure 3.12. The ID of key paper must fill in the circle number 0 all digits.

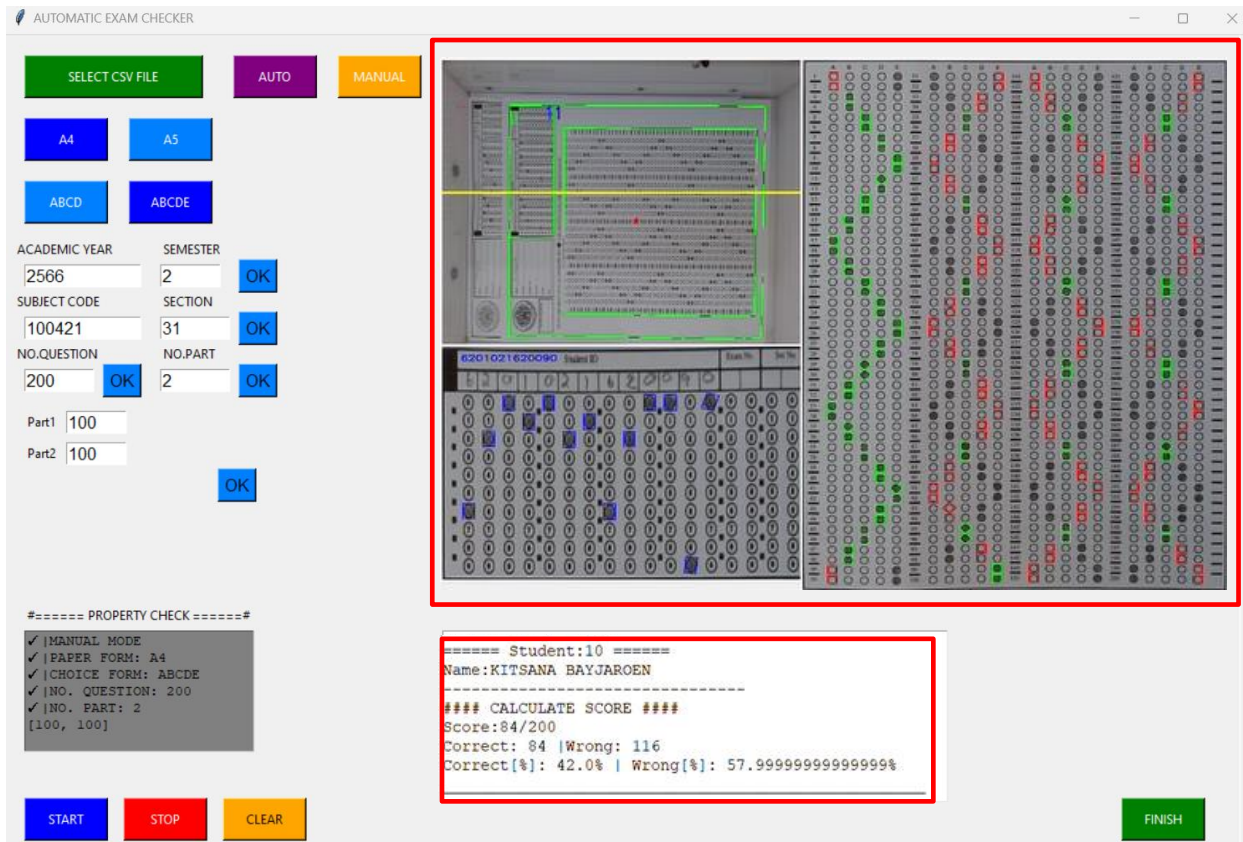


Figure 3.13 Feed student paper to check the score.

11. After feeding key paper, the user needs to feed student paper to check the score. For example, in this case the student paper has data, name is KITSANA BAYJAROEN, ID is 6201021620090, and score is 84/200 as shown in Figure 3.13.

AUTOMATIC EXAM CHECKER

SELECT CSV FILE AUTO MANUAL

A4 A5

ABCD ABCDE

ACADEMIC YEAR SEMESTER  
2566 2 OK

SUBJECT CODE SECTION  
100421 31 OK

NO. QUESTION NO. PART  
200 2 OK

Part1 100  
Part2 100 OK

#===== PROPERTY CHECK =====#

- ✓ [MANUAL MODE]
- ✓ [PAPER FORM: A4]
- ✓ [CHOICE FORM: ABCDE]
- ✓ [NO. QUESTION: 200]
- ✓ [NO. PART: 2]
- [100, 100]

START STOP CLEAR

===== Student:10 =====  
Name:KITSANA BAYJAROEN  
-----  
#### CALCULATE SCORE ####  
Score:84/200  
Correct: 84 |Wrong: 116  
Correct[%]: 42.0% | Wrong[%]: 57.99999999999999%

FINISH

Figure 3.14 Click “FINISH” button after finish check score.

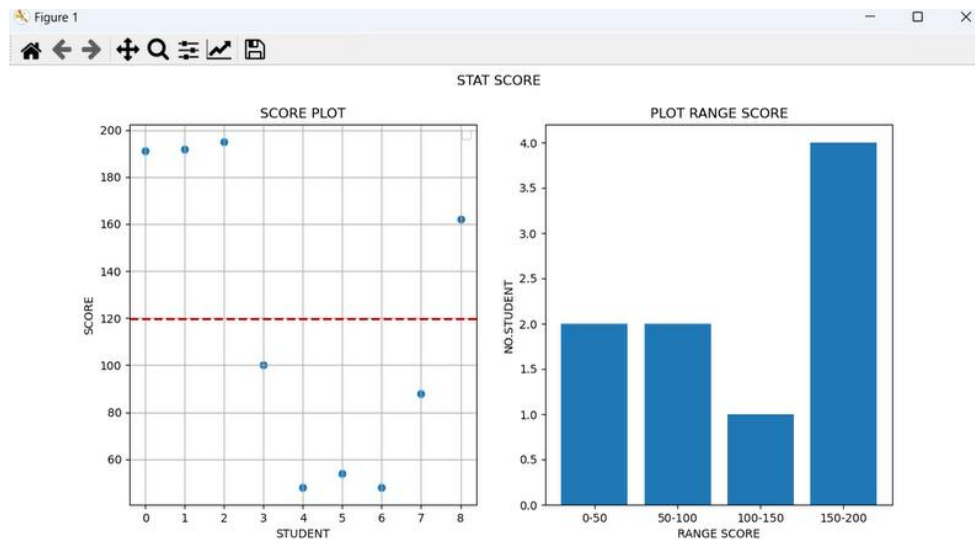


Figure 3.15 Graph shows after Click “FINISH” button.

11. After finish feeding paper click “FINISH” button to calculate the statistic, plot graph and save data such as image score, csv file, and reject paper as shown as Figure 3.14 and Figure 3.15.

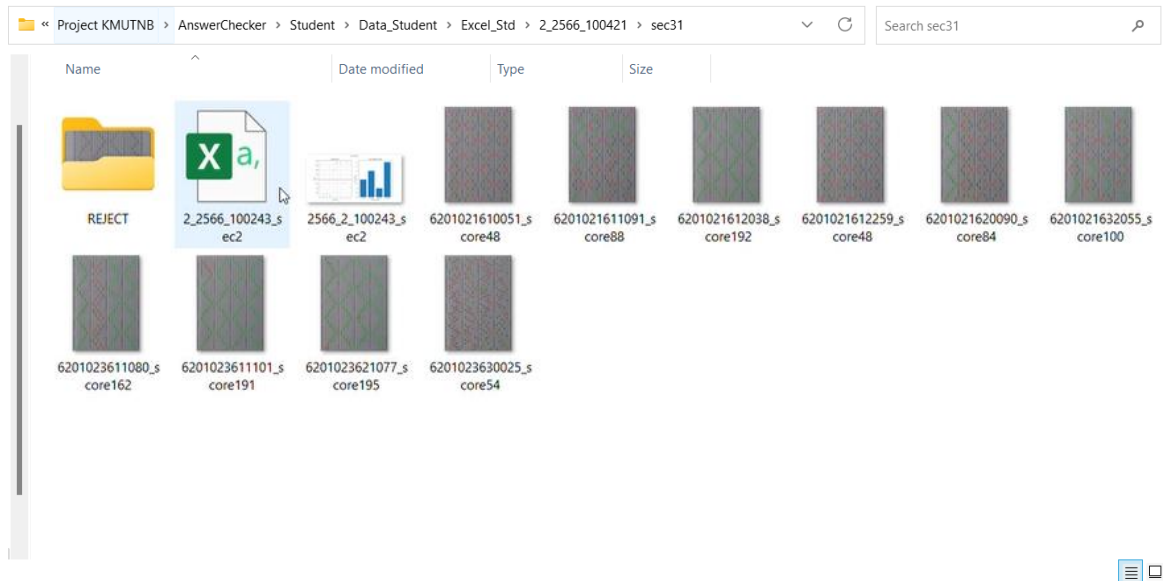


Figure 3.16 The data saved in folder.

12. The program will automatically create folders for save the data such as image score, graph, csv file, and reject paper will be saved in the folder as shown in Figure 3.16 which the location is in the user selects from **step 1**.



## 4. Summary Score program (Optional).

This program is used for the subject that requires more than 200 questions. The program needs to calculate between 2 csv files which the last name of file name is “SET1” and “SET2” files. The user will receive the file after using the program from use programs that mentioned before.

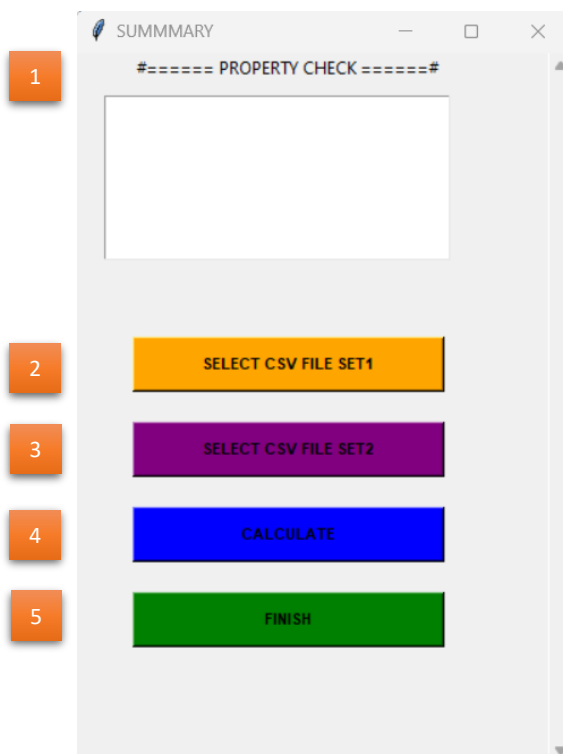


Figure 4.1 GUI summary score

**Number 1** Display box. The box is used for displaying the property and process of program.

**Number 2** Select CSV File SET1 button. This button is used to select the first csv file (SET1).

**Number 3** Select CSV File SET2 button. This button is used to select the second csv file (SET2).

**Number 4** Calculate button. The button is used for calculating scores and statistics between 2 csv files.

**Number 5** Finish button. The button is used to summary score, save graph and csv file.

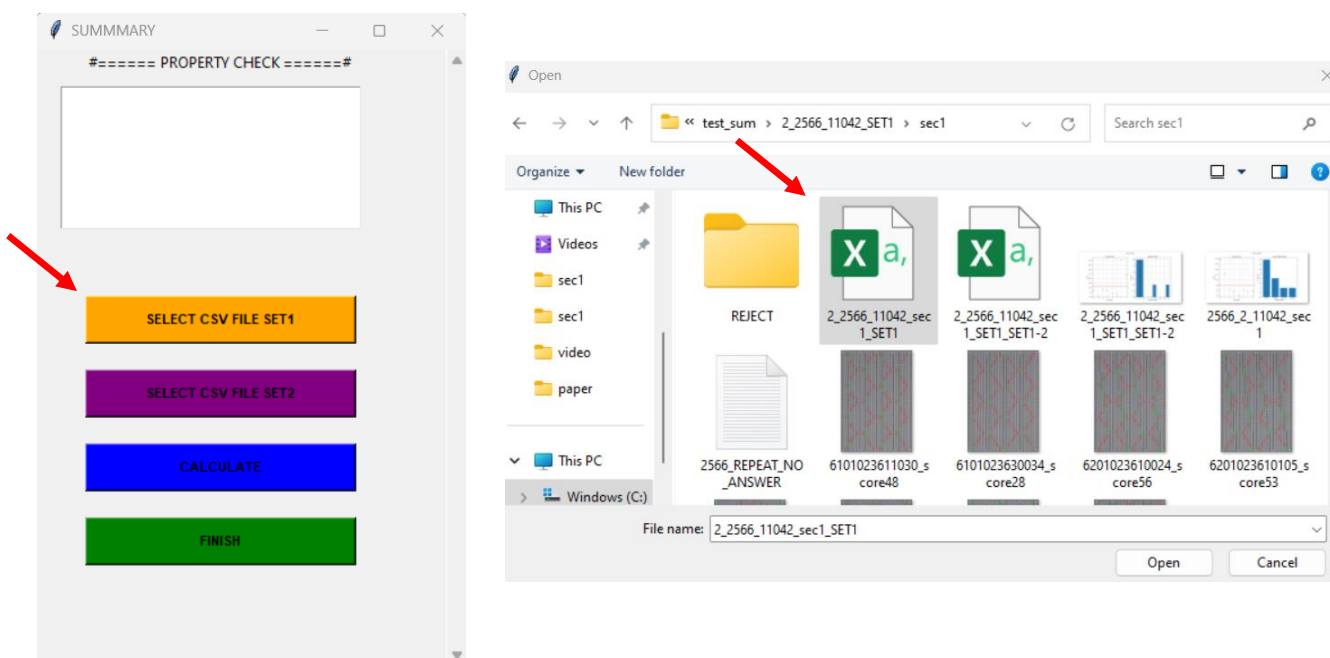


Figure 4.3 Click the “Select CSV file SET1” button and select SET1 csv file.

1. Click the “Select CSV file SET1” button to access score and data of student in set1. For example, in this case select “2\_2566\_11042\_sec1\_SET1” as shown in Figure 4.2.

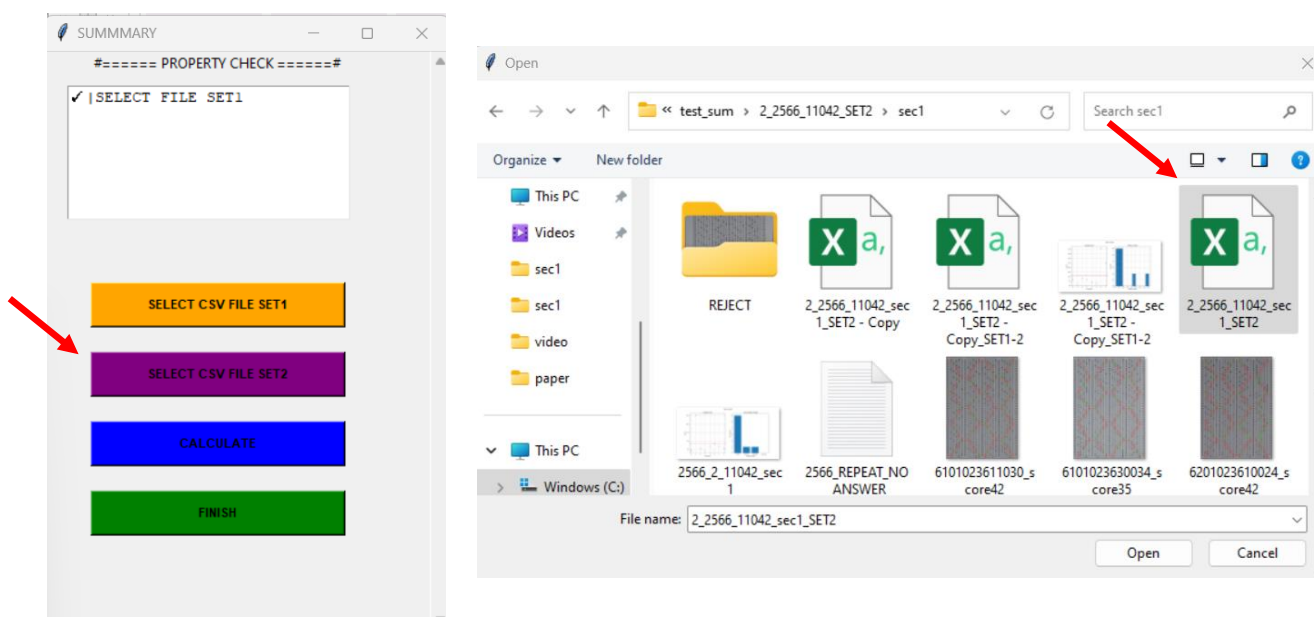
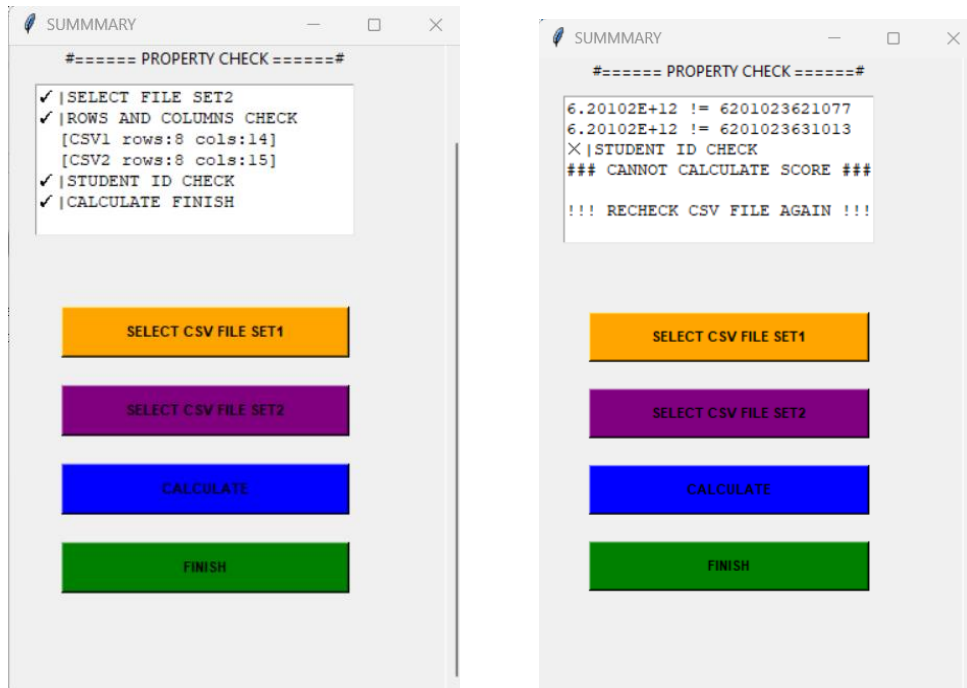


Figure 4.3 Click the “Select CSV file SET2” button and select SET2 csv file.



2. Click the “Select CSV file SET2” button to access score and data of student in set2. For example, in this case select “2\_2566\_11042\_sec1\_SET2” as shown in Figure 4.3.



(a)

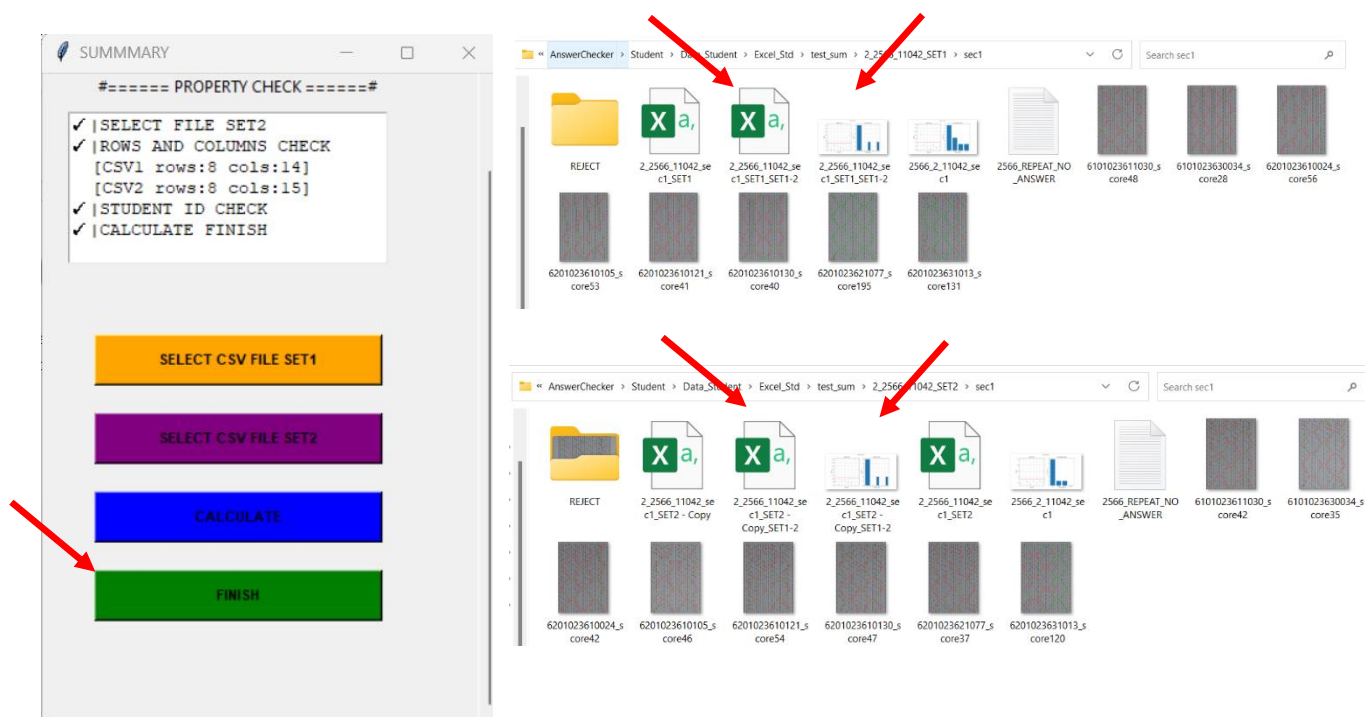
(b)

Figure 4.4 (a) Click the “CALCULATE” button to calculate the score and statistic.

(b) Error Case

3. Click the “CALCULATE” button to calculate score and check data of student between set1 and set2 as shown in Figure 4.4 (a).

**Note:** The error will occur when **the rows are not equal** (number of student) or **student ID is not match** between 2 sets. The user needs to **recheck csv file** or **check score again**.



4. Click the “FINISH” button to save score in csv file and graph in both locations of SET1 and SET2