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We will be failing in duty if we do not acknowledge with grateful thanks to the authors of the references and other literatures referred in this Project.

We express my thanks to all staff members and friends for all the help and co-ordination extended in bringing out this Project successfully in time.

Finally, we are very much thankful to my parents who guided me for every step.

This project is submitted by:

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ABSTRACT

This grading system focuses on the development and implementation of an adaptive learning and grading system with a goal to increase the effectiveness and quality of feedback to students. By utilizing grading concepts from established theories, the goal of this research is to improve the quantity, quality, and speed of feedback as it pertains specifically to the grading of computer skills with a focus on personal productivity software. Feedback has been identified as a key component of successful learning among students. This research builds upon the knowledge from the cognitive, behavioral, and resource based views of learning as well as upon the establishment of grading rubrics. An automated grading system was developed that allows instructors to quickly grade multiple simple computer literacy assignments. Key to the success of the system is the ability of the system to “generate” the correct and incorrect responses and store them for future use. To understand the impact of the system on feedback, three hypotheses were created and experiments were developed to test them. The system was shown to positively affect the quantity of feedback and reduce the time required for grading assignments. No effect on the quality of the feedback comments was shown and may be a subject of further study . The question is how it is done?

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1.INTRODUCTION

1.1 Introduction & Objectives

~Grade calculation is the calculating the grade of students based on the percentage student received and feedback to it
~Robotic Process Automation (RPA) is a type of automation technology currently transforming the way businesses operate.

~Excel automation streamlines your use of the application by automatically performing tasks.

Many educational institutions offer grades to students and assist the grading process by manual process. According to various learning theories, providing correct and, timely feedback on assignments has been identified as a key component of successful learning among students. However, it is very time consuming and sometimes impractical to provide extensive and qualified feedback on numerous computer projects. This research reports the development and implementation of an adaptive learning and grading system with the goal to expedite and improve the feedback provided to students for their personal productivity software (i.e. spreadsheet and database) assignments. This research builds upon the knowledge from the specified views of learning as well as the establishment of the appropriate grading rubrics.

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1.2 Purpose of the Project

~the project ensures the correct grading is given to students.
the feedback also given to students In our study, an automated grading system,

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also known as the Adaptive Grading/Learning System (AGLS), was developed to allow instructors to quickly grade multiple and complex computer literacy assignments while providing meaningful feedback to students in order to stimulate an efficient learning process. The system provides for a consistent grading rubric for each assignment. A unique feature of the system is the ability of the system to “learn” the correct and incorrect responses and add them to the rubric. It is unique and different from what is currently provided by book publishers as it enables instructors to build more complex assignments and also share this enhanced grading rubric with other instructors. This research investigated how ‘auto grading’ with an adaptive learning component might be used to affect the quality, quantity and the speed of feedback. Hypotheses were developed and evaluated using data collected by the existing grade book reporting systems. the grading is automated so, no need of human effect is involved in the evaluation of grade to students.

- -it receives the data from the excel sheet and stores the result in another excel sheet
- the system not requires any external interference in the output
- the student's confidence on teacher not decreases

2. REQUIREMENTS

Blue prism is a UK-Based Software Company and is one of the leading robotic process automation tools. It is used to automate mundane tasks such that they could operate without any manual intervention. Blue prism has gained edge over its competitors as it has better security, flexibility, scalability, compliance, and resilience.

Pre-requirements for Blue Prism

The following are the pre-requisites for the Blue Prism. It is the only software

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which –

· Creates and supports a digital workforce of industrial strength and enterprise scale.

· Does not require IT skills to implement

· Can be implemented in sprints of 4 to 8 weeks (Start to finish)

· Is very low cost compared to the TCO of alternative solutions

· Provides tremendous payback with self-funding returns and an ROI that has been as high as 80%

· Can be managed within IT infrastructure and processes

Installation of Blue Prism

· The following are the installation requirements for Blue Prism –

· Windows 10 (Preferred) OS, 64 bit

· Blue prism installation Software, 64 bit

· Blue Prism License File

· SQL Server Express Edition, 64

2.1 Software Requirements

Requirement is a condition or capability possessed by the software or system component in order to solve a real-world problem. The problems can be to automate a part of a system, to correct shortcomings of an existing system, to control a device, and so on. IEEE defines requirement as A condition of capability needed by a user to solve a problem or achieve an objective. A condition or capability that must be met or possessed by a system or system component to satisfy a contract, standard, specification, or other formally imposed documents.

Requirements describe how a system should act, appear or perform. For this, when users request for software, they provide an approximation of what the new system should be capable of doing. Requirements differ from one user to another and from one business process to another.

· Operating system: Windows XP/Vista or any main stream OS

· Installation and Setup Guide for Blue Prism

· Installation and Setup Guide for MS Excel
· Blue prism Version: 6.10.1
· Blue prism License File
· Blue prism installation Software 64 bit
· MS Excel
· Windows 7/8/10

2.2 Hardware Requirements

The hardware requirements are the requirements of a hardware device. Most hardware only has operating system requirements or compatibility. For example, a printer may be compatible with Windows XP but not compatible with newer versions of Windows like Windows 10, Linux, or the Apple mac OS. If a hardware device is not compatible with your computer, it is up to the manufacturer to release drivers. Unfortunately, many manufacturers only release updated drivers to fix problems with older drivers and often do not release drivers for newer operating systems or alternative operating systems. If a hardware device doesn't have drivers for your operating system, the only solution may be to get a more up-to-date replacement device.
The following is the Hardware required to complete this project:
· Internet connection to download and activate
· Administration access to install and run Blue Prism
· Minimum 10GB free disk space
· Windows 8.1 or 10.
· Minimum System Requirements to run Office Excel 2013, your computer needs to meet the following minimum hardware requirements:
■ 500 megahertz (MHz)
■ 256 megabytes (MB) RAM
■ 1.5 gigabytes (GB) available space
■ 1024x768 or higher resolution monitor

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3. FLOW AND IMPLEMENTATION

3.1 Creation

3.1.1 Idea:

Need to find a new one --“Generally, in the educational institutes monitoring the machine
status continuously and maintaining the records of the entire data plays a very important role as that helps the officials to analyze the production factors. This also helps in resolving some of the problems like machine failures, production delays, etc.
Through this project, we can create a system that will capture some important parameters of the students like their student_ id, Name, percentage and etc.,
All the parameters along with the salary are stored in excel sheet. Admin can monitor the entire device parameters and the previous records of data through the excel sheet.

3.1.2 Objectives:

By the end of this project, you will:
● Gain insights into building blocks of Blue Prism automation.

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● Importing MS Excel VBO (Visual Basic for Applications) in Blue Prism.
● Tuning Process Studio with specific needs.
● Working with different stages in the Process studio.
● Build a HR Payroll Excel Automation that works over Microsoft excel 2013.

3.1.3 Project Flow:

● Importing Blue Prism MS Excel VBO (Visual Basic for Applications)
● Binding Process Studio with MS Excel VBO.
● Opening MS Excel Workbook.
● Specifying Blue Prism Stages to work on MS Excel Workbook in Blue Prism.
● Tuning Process Flow with Blue Prism Actions.
● Closing MS Excel Workbook.

To accomplish this, we must complete all the activities and tasks listed below:

ü Configure the Process Model

o Import MS Excel VBO
o Process Model binding with MS Excel VBO

ü Adding Process Stages

o Create Instance
o Open Excel file
o Get to collection
o Loop module
o Multi Calculation module
o Write collection
o Save Excel file
o Close workbook

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ü Test the Model

o Test Process Model

3.1.4 Prerequisites:

To complete this project, you must require the following concepts and software's:

● Knowledge of programming language, network structures, should know how to perform administrator activities on windows server.
Understanding of Installation models and design of infrastructure.
Able to detect repeating tasks and automate them.

● MS Excel basic knowledge like Cell, Worksheet, Workbook, etc.

4. ACTIVITIES

Milestone 1: Configure the Process Studio

Let us create the Process Object bind with MS Excel VBO.

Object studio is mainly used to develop the objects. Inside the object, we have different types of actions as follows:

1. Application Modular to Spy the Elements
2. Initialize page and clean up page

Activity 1: MS Excel VBO (Import VBO file)

File -> Import -> Browse -> (C:\Program Files\Blue Prism Limited\Blue Prism Automate\VBO\BPA Object-MS Excel). Click Finish.

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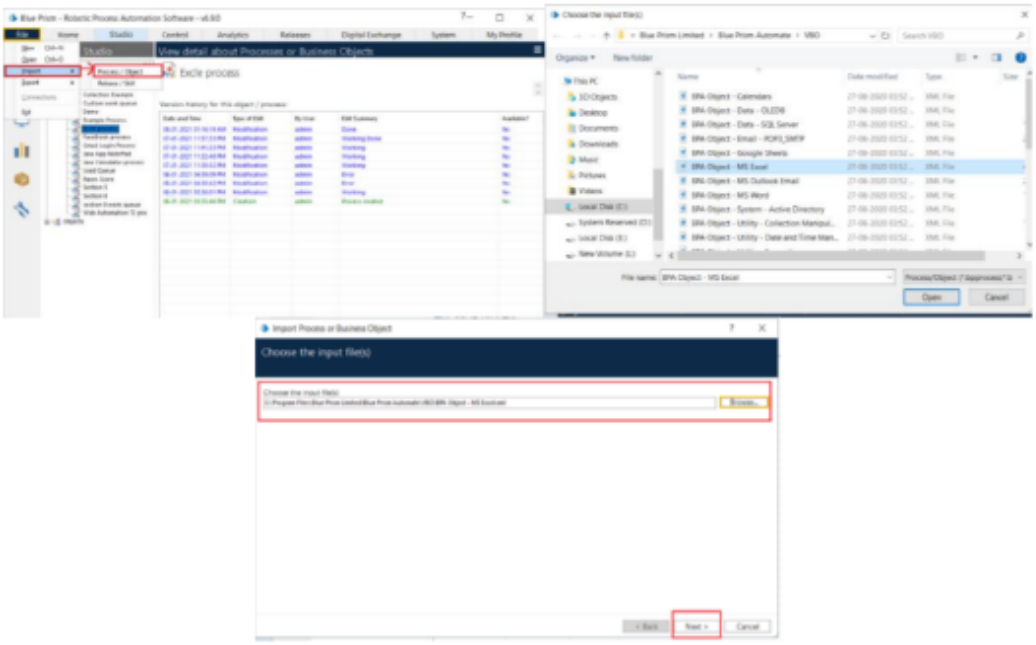

Activity 2: Creating the Process Object from Object Studio

Process studio has only the Main page. We can call from the process studio. We use the Process studio for developing and testing

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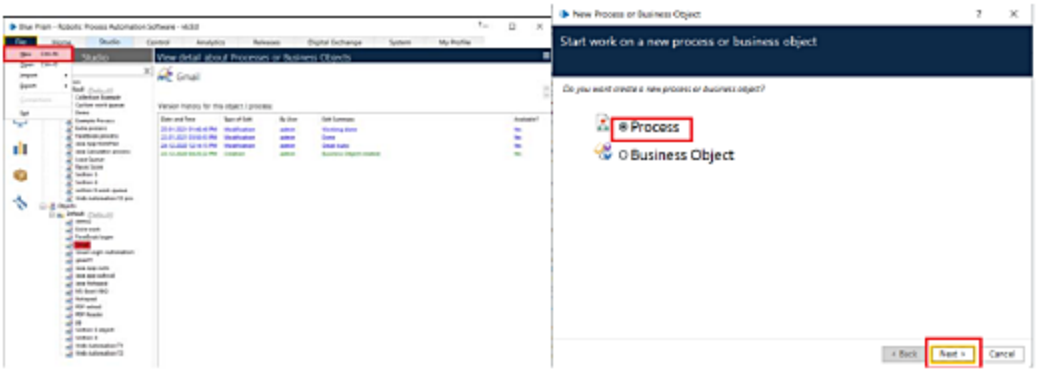
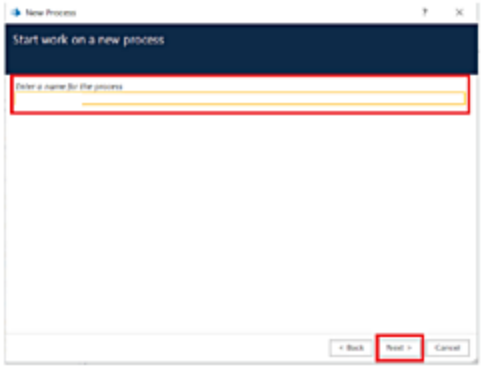
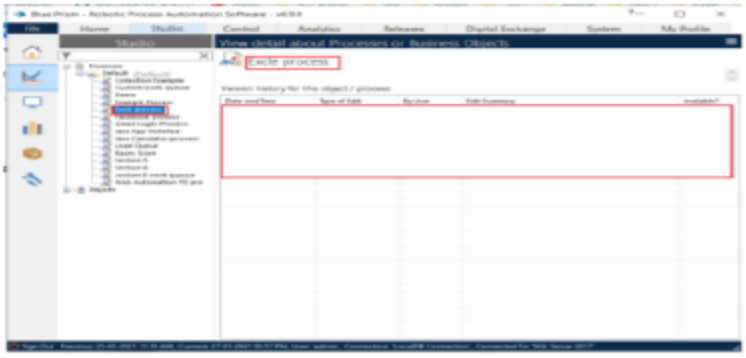




Open Created Process Model (grade calculation Process)



1. Create Action Stage as “Create Instance” (Business Object = MS Excel VBO; Action = Create Instance).

a. Click on the Outputs tab

I. Create Data Item, type = number, name = “handle”. Drag it the store in column.

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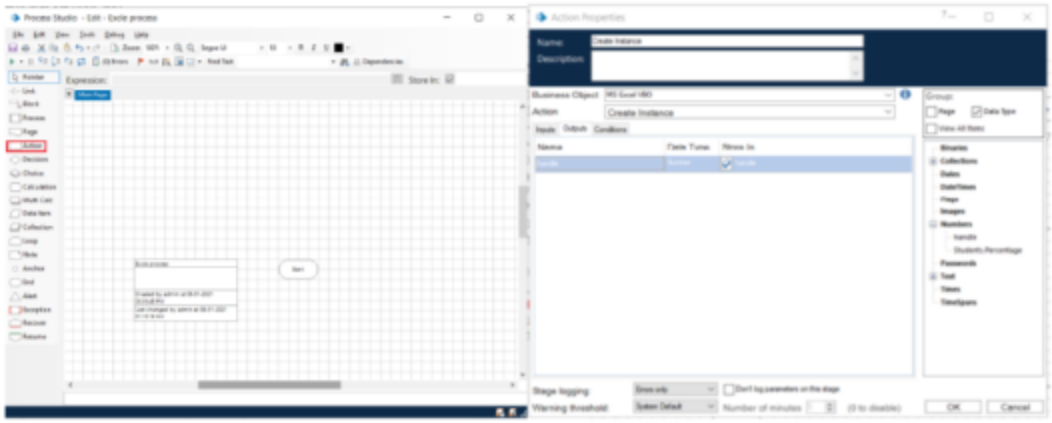
II. Click on ok.



2.

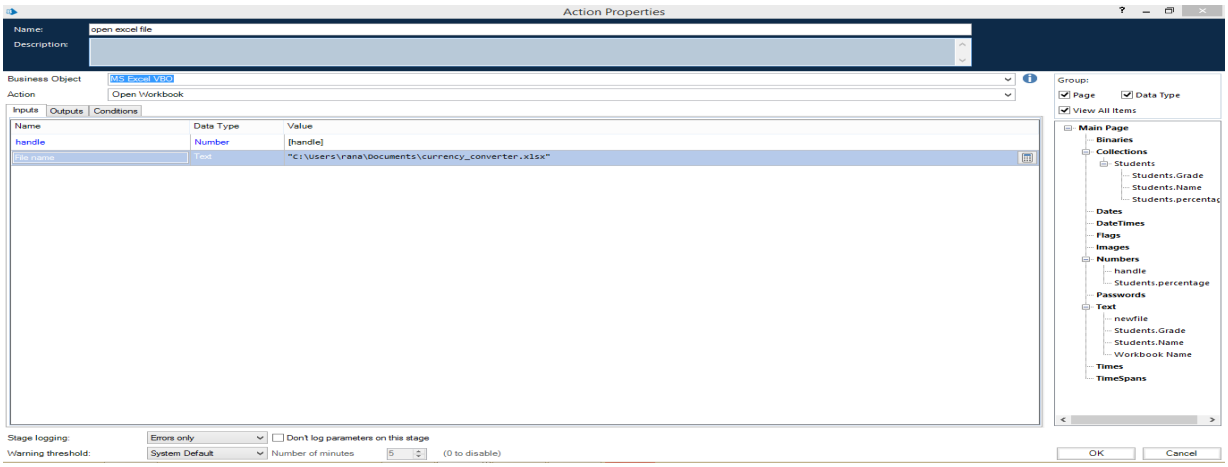
Create Action Stage as “Open Excel file” (Business Object = MS Excel VBO;

Action = Open Workbook).

a. Click on the Inputs tab

i. Drag “handle” data item into handle Value column.

ii. Set file path of excel file in File Name Value column



b. **Click on the Outputs tab**

i. Create Data Item, type = Text, name = “Workbook Name”. Drag it into the Store in column. Click on OK.

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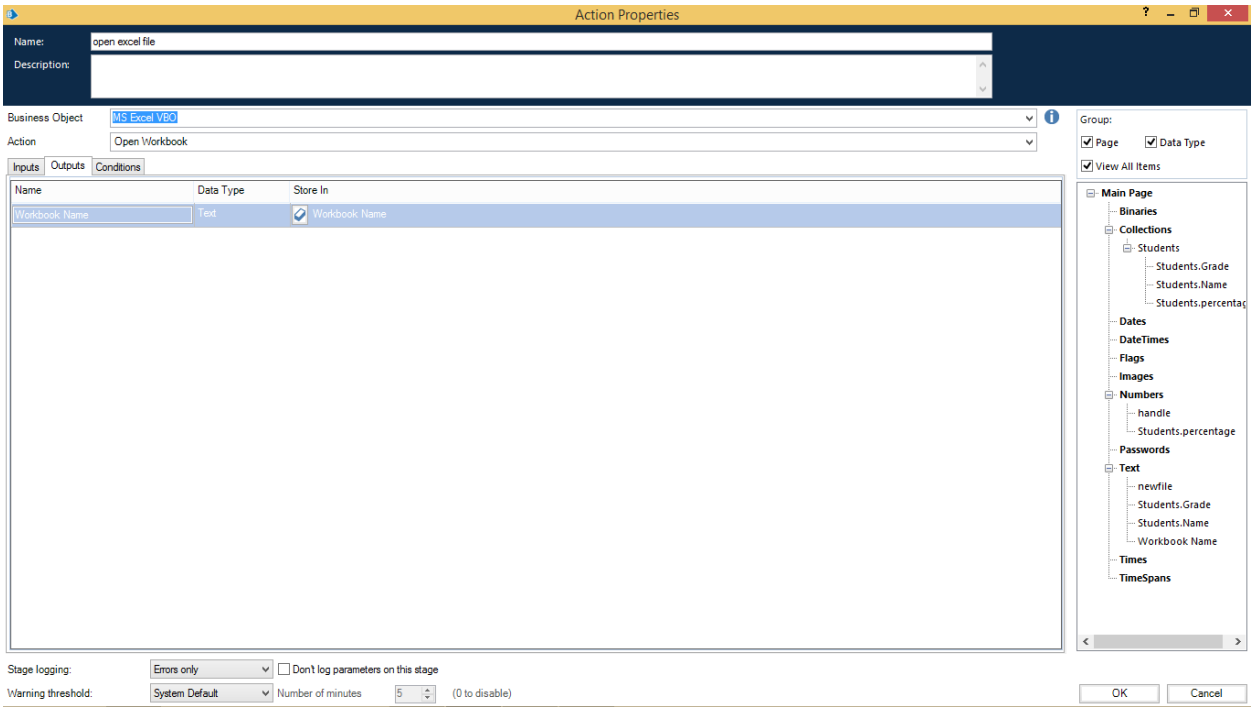


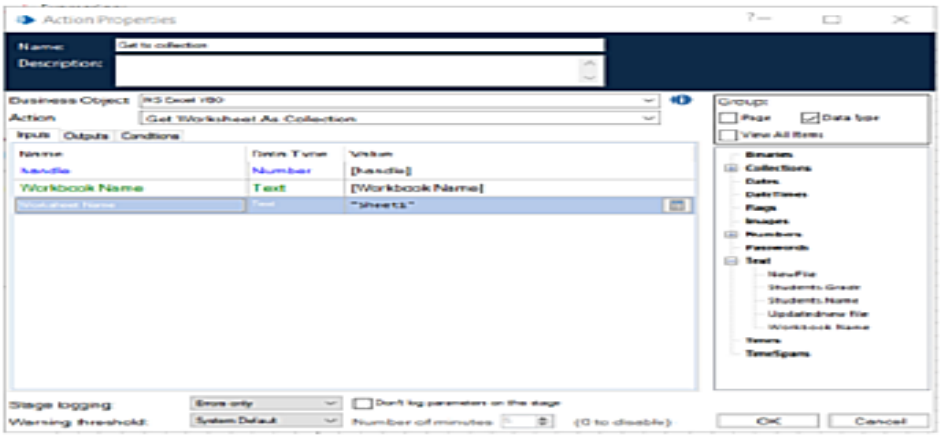
3. Create Action as “Get to collection” (Business Object = MS Excel VBO; Action =
Get Workbook As Collection).

a. Click on the Inputs tab

i. Drag “handle” data item into handle Value column.

ii. Drag “Workbook Name” data item into the Workbook Name Value column

iii. Write Worksheet name as “Sheet1”.



b. Click on the Outputs tab

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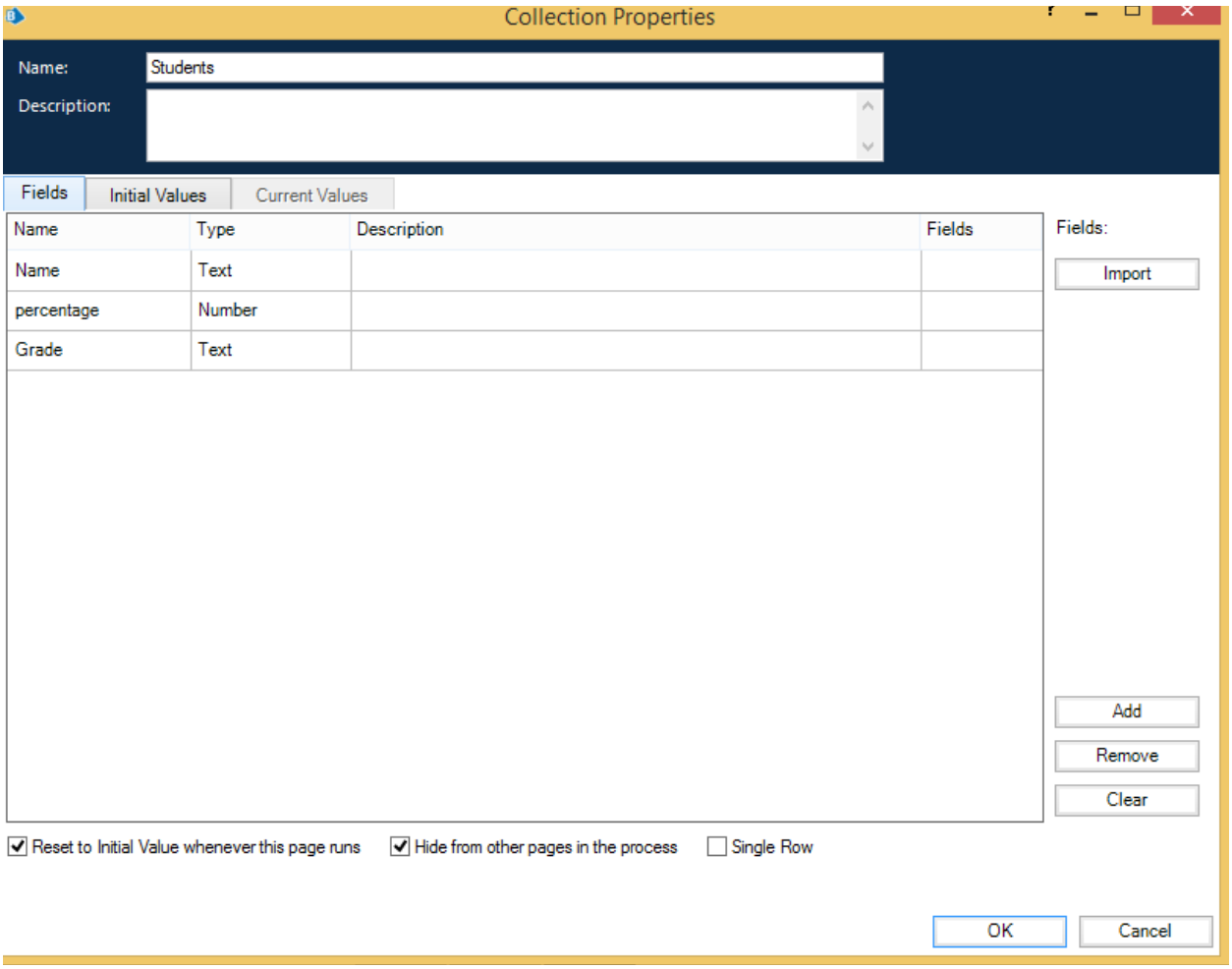
i. Create Collection as “Student”, with the following fields.
ii. Use Add Button to add fields in collection.



4. Drag Loop module, Drag Multi Calculation module. Connect loop start with Multi Calc stage. Open Multi Calculation Properties and create the following fields.

a. [Student .Percentage]>=70 AND [Students .Percentage]<=79
b. [Student .Percentage]>=80 AND [Students .Percentage]<=89
c. [Student .Percentage]>=90 AND [Students .Percentage]<=100

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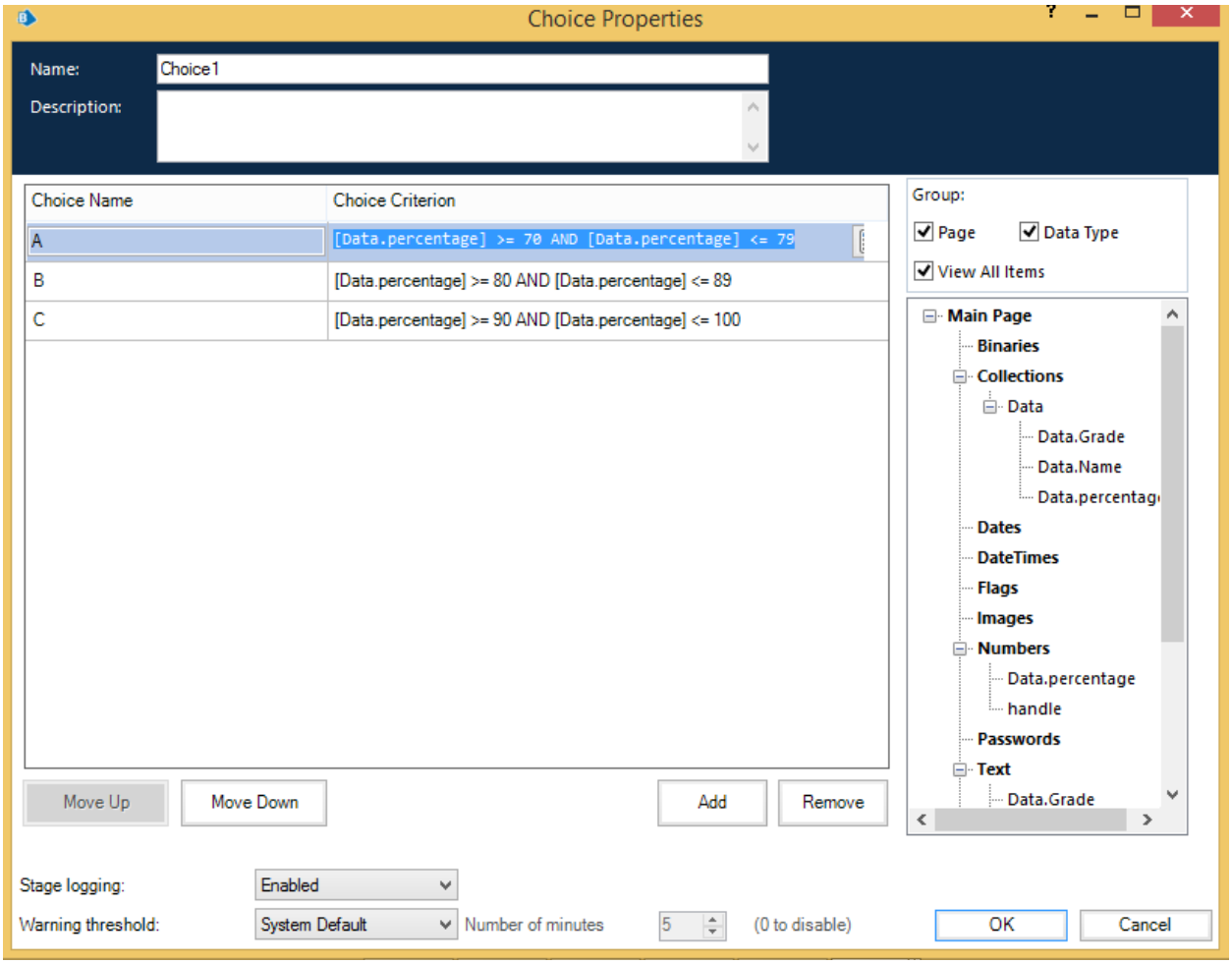

5. Create Action Stage as “Close student excel file ” (Business Object = MS Excel VBO;

Action = Close Current Workbook).

a. Click on the Inputs tab

b. Drag “handle” data item into handle Value column

c. Do connections as follows.

d.save dataflag to false

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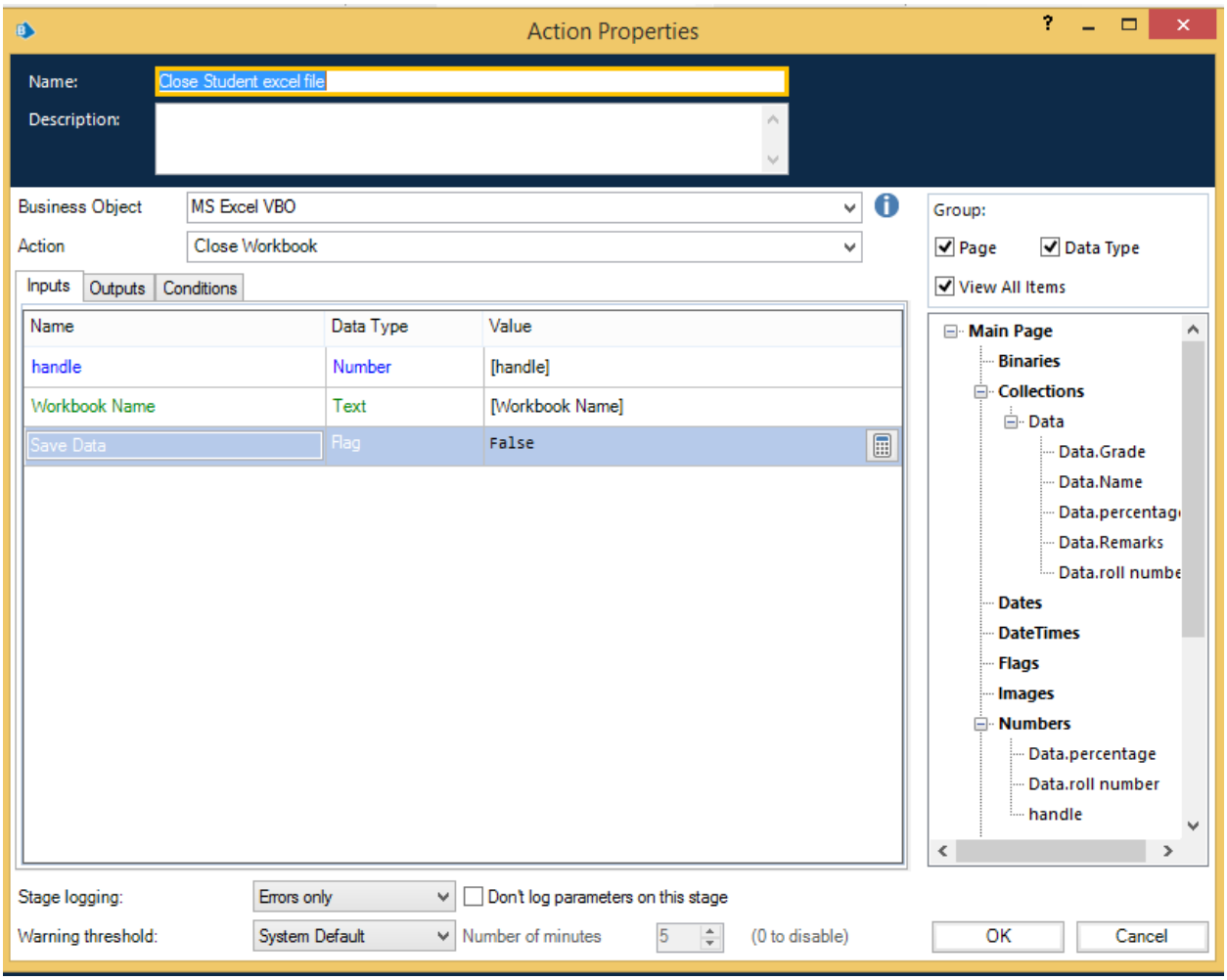

6. Create Action Stage as "add excel file" (Business Object = MS Excel VBO; Action = Write Collection).

a. Click on the Inputs tab

i. Drag "handle" data item into handle Value column.

ii. Drag "newfile" data item into the Workbook Name Value column.

iii. Drag "Student" Collection into the Collection Value column.

iv. Write Worksheet name as "Ouput"

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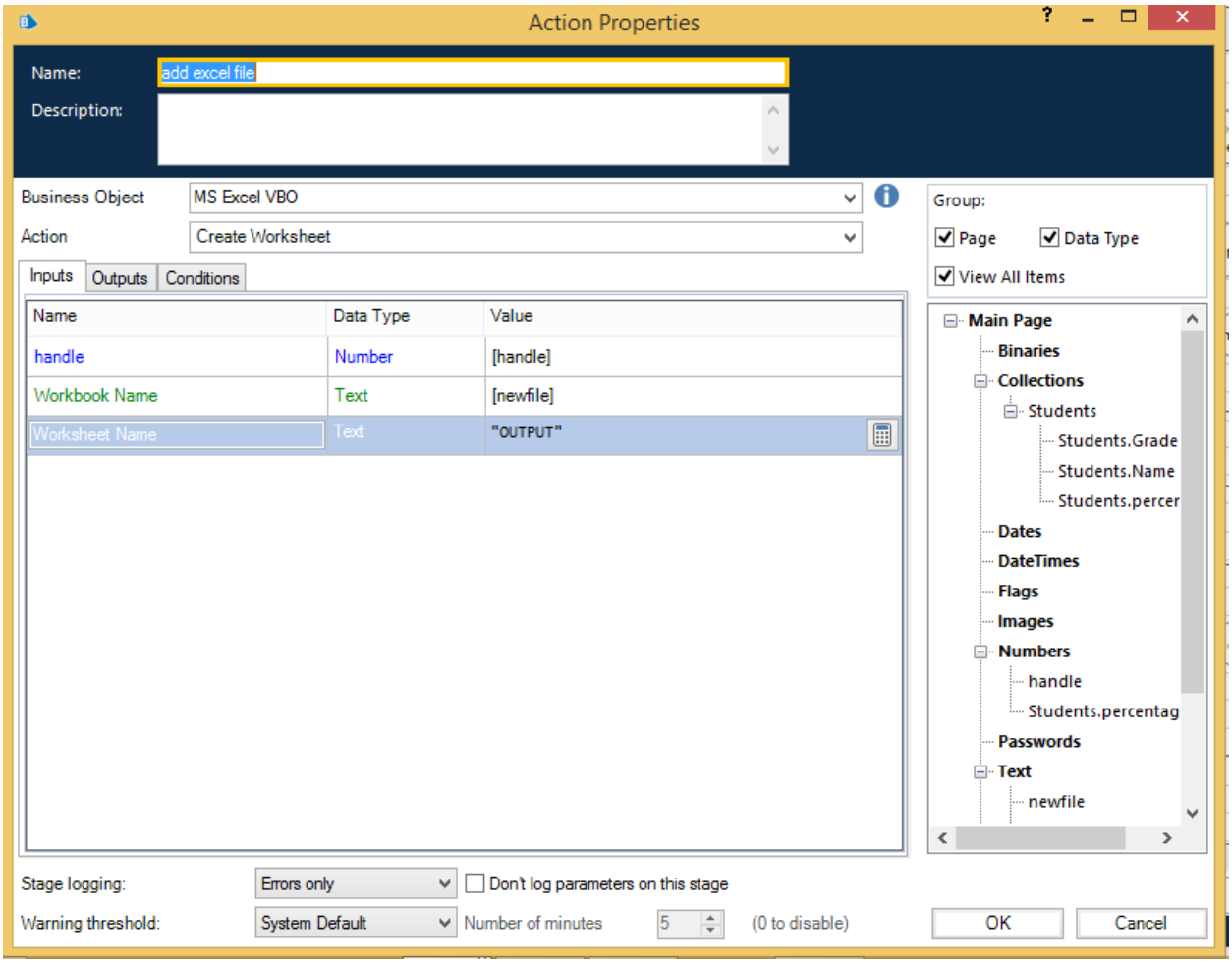

7.Create Action Stage as “Write collection” (Bu

siness Object = MS Excel VBO; Action = Write Collection).

a. Click on the Inputs tab

i. Drag “handle” data item into handle Value column.

ii. Drag “Workbook Name” data item into the Workbook Name Value column.

iii. Drag “Student” Collection into the Collection Value column.

iv. Write Worksheet name as “Sheet1”.

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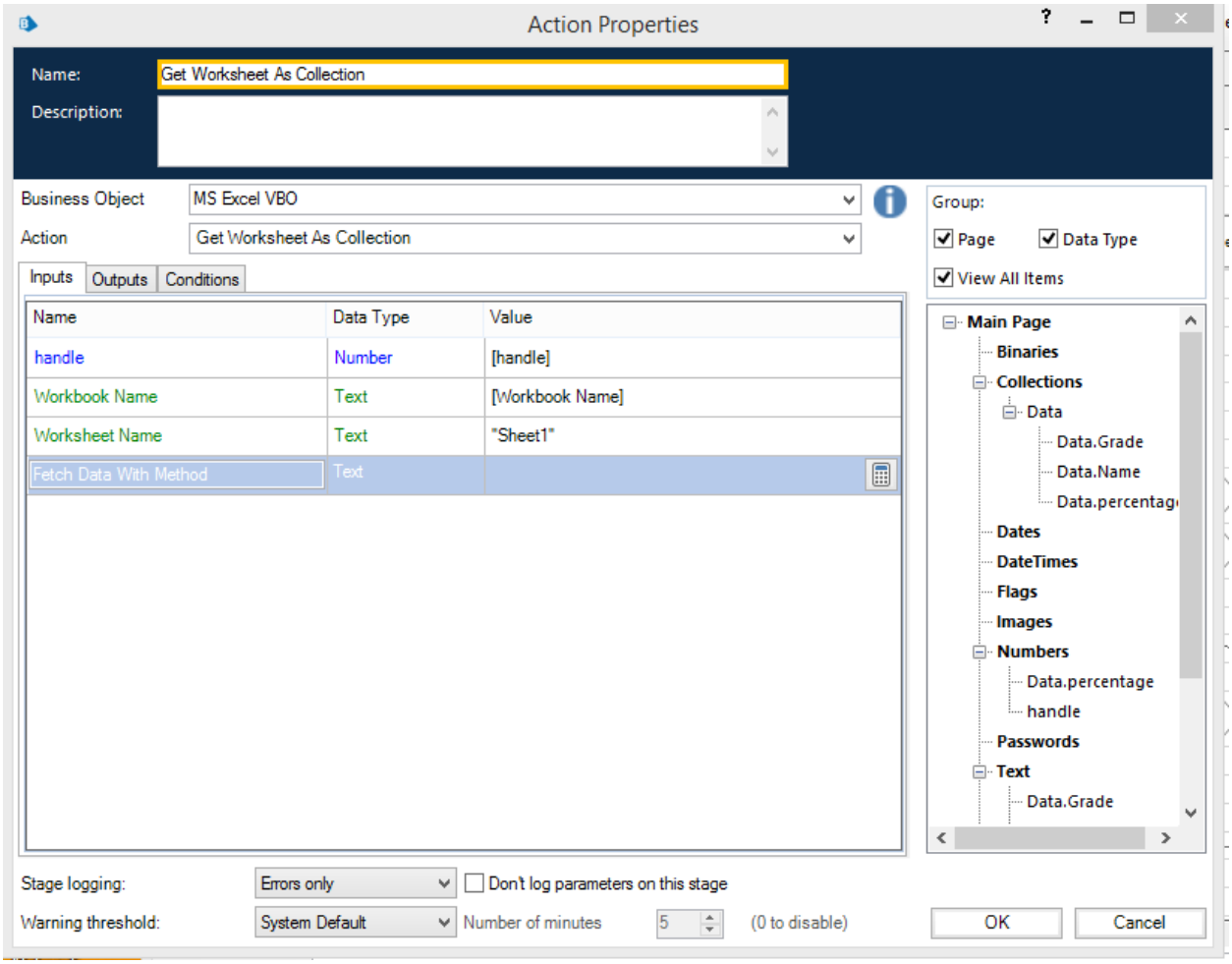

7. Create Action Stage as “excel file” (Business Object = MS Excel VBO; Action = Save Workbook).

a. Click on the Inputs tab.

i. Drag “handle” data item into handle Value column.

ii. Drag “new file” data item into the Workbook Name Value column.

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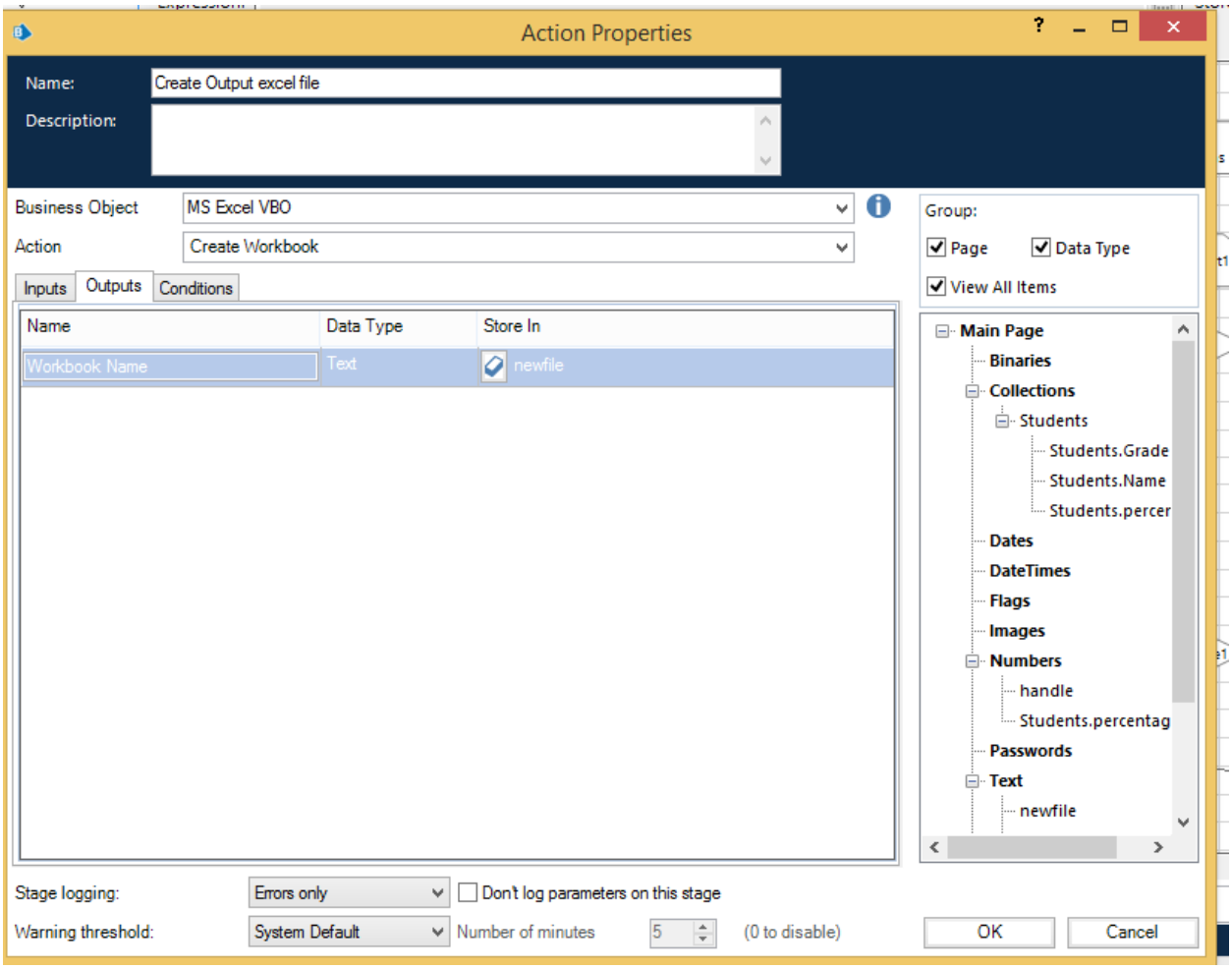

8. Create Action Stage as “Close workbook” (Business Object = MS Excel VBO; Action = Close Current Workbook).

a. Click on the Inputs tab

b. Drag “handle” data item into handle Value column

c. Do connections as follows.

d. Input Excel file data

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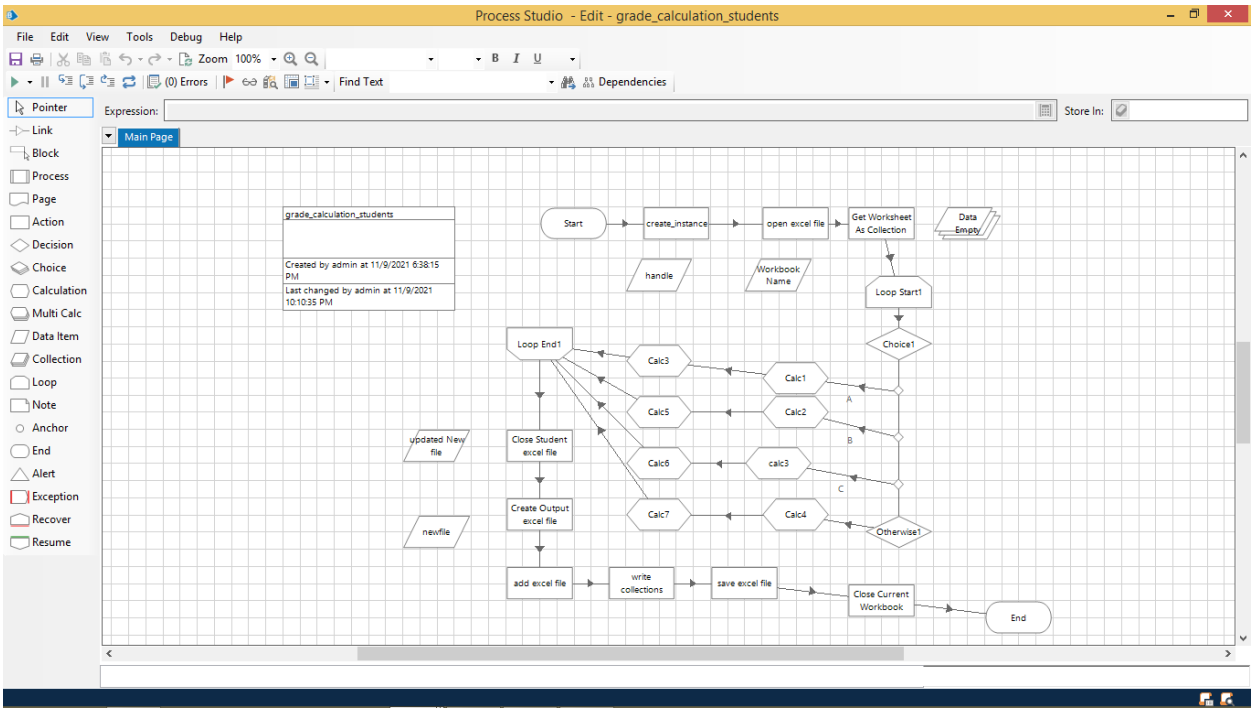

Activity 3: Testing the Process Object from Object Studio

Click on the Main Page, click on the Green play button to run the ‘Excel Process’ Process object. It shows COMPLETED when there is no error or no failure in the object.

Click on the Main Page, click on the Reset button to reset the cache for rerun the process object as fresh.

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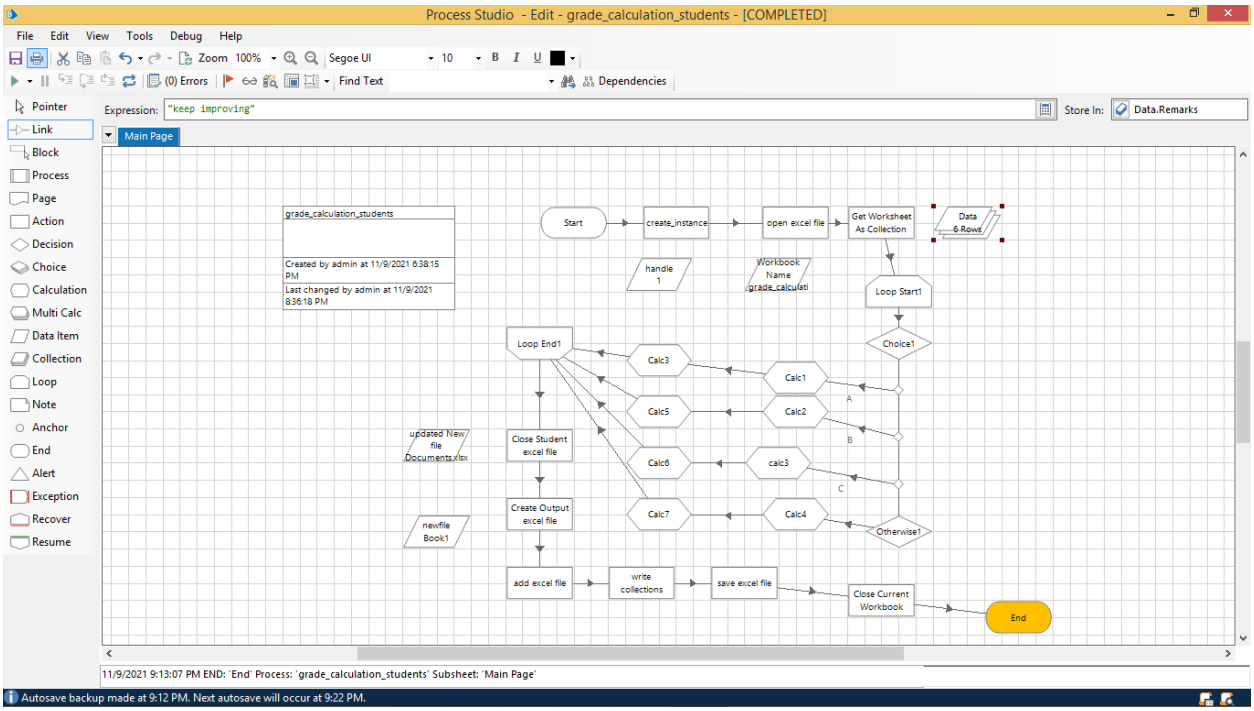
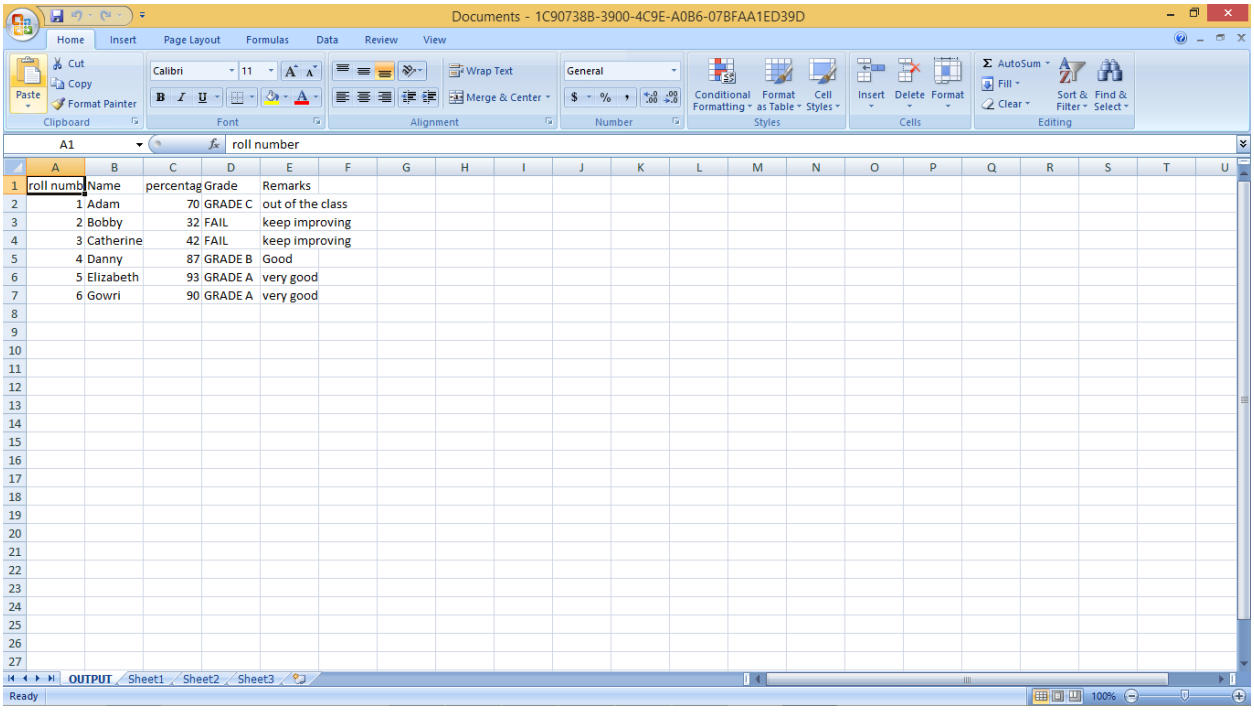


Output Excel file:



5. CONCLUSION

From an student grade and feedback has been identified as a key component of students success .To promote effective learning, students need to be given multiple real world exercises and need to receive rapid and meaningful feedback and remarks A significant finding is that in the pre-implementation of grading to the students received no feedback on their projects, The implementation of the grading provides an innovative approach for automated grading – especially on assignments with more complexity. The system was built to support the learning concepts found in the literature of increased receptiveness and retention of knowledge by students. Prior research indicates that improved quantity of feedback, adaptive learning nature, and timely responses do facilitate student success over time. Although the authors were disappointed that the quality of feedback did not increase, the increased quantity and more timely feedback are significant benefits of the system..With an increase in class sizes and the time involved in manually grading assignments , instructors have adapted methods that do not promote student learning. This will check the students performance

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Future Enhancements

One impact on grades which is planned for a future study is the use of pre-grading. As noted earlier, over 33% of instructors offered pre-grading on assignments. This permitted students to submit their projects early. The projects are then re-graded and comments posted to assist the students. The students could resubmit by the due date for an updated grade. Future plans include measuring the impact of students who take advantage of pre-grading versus those who don't on future projects and tests in the class Another interesting extension of this research will be to determine if the same findings and benefits accrue from other automatic grading systems such as procedure systems and case-based grading systems. This research would involve finding other colleagues that have implemented other automated systems and are running similar experiments.

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1. Conole , G. and Warburton, B. (2005). A review of computer-assisted assessment. Research in Learning technology, 13(1), 17–31.

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