Configuration Manual

MSc Research Project
MSc in Cloud Computing

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MSc Project Submission Sheet

School of Computing

Student Name:	Pankhuri Jha……………………………………………………………………………….
Student ID:	X21109460………………………………………………………………………………
Programme:	MSc in Cloud Computing…………………………… **Year:** 2022-2023
Module:	MSc Research Project………………………………………………..………
Lecturer:	Vikas Sahni………………………………………………………………………..………
Submission Due Date:	15/12/2022…………………………………………………………………….………
Project Title:	Critical Review of Resource Scheduling Algorithm to optimize datacentre energy consumption and environmental impact towards green cloud computing
Word Count:	…………760………… **Page Count:** ………………6…………………..…….………

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.

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Configuration Manual

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1 Introduction

1.1 Motivation of the document

The purpose of this manual is to describe the project requirements, environment and tools used to complete the project on Critical Review of Resource Scheduling Algorithm to optimize datacentre energy consumption and environmental impact towards green cloud computing as per National college of Ireland's project module handbook.

2 System Configuration

2.1 Hardware Specification

1) Processor: Intel(R) Core (TM) i5-1035G1 CPU @ 1.00GHz, 1190 Mhz, 4 Core(s), 8 Logical Processor(s)
2) OS Name: Microsoft Windows 11 Home Single Language
3) Version: 10.0.22621 Build 22621
4) System Manufacturer: Dell Inc.
5) BIOS Version/Date: Dell Inc. 1.24.0, 12-09-2022
6) RAM: 8GB
7) Hyper-V Virtualization Enabled in Firmware: Yes
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3 Software Installation

3.1 Python

Code implementation has been done using Python coding language. Python is a cross-platform programming language, which enables it to function on a variety of operating systems, including Windows, macOS, Linux, and virtual machines for Java and.NET. It is open-source and free.

```
C:\Users\DELL>python -V
Python 3.9.13
```

The easy way to use Python is by using the IDE.

- ➢ Followed the following steps to run Python on your computer.
- ➢ Downloaded Visual studio IDE.
- ➢ Ran the installer to install Thonny on your computer.
- ➢ Went to File > New. Then saved the file with .py extension.
- ➢ Any name could be given to the files. In the IDE four files have been saved i.e
- i) FCFS
- ii) SJF
- iii) Priority scheduling
- iv) Round robin

And the end by .py, Written Python code in the file and saved it.

```
C:\Users\DELL>python
Python 3.9.13 (tags/v3.9.13:6de2ca5, May 17 2022, 16:36:42) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

3.2 Visual studio IDE

Debugging, task execution, and version control are supported by the simplified code editor Visual Studio Code. It tries to give developers only the tools they require for a short cycle of code-build-debugging and leaves more sophisticated processes to IDEs with more features, like Visual Studio IDE. Below is the Visual studio environment where the scheduling algorithm code has been compiled and executed.
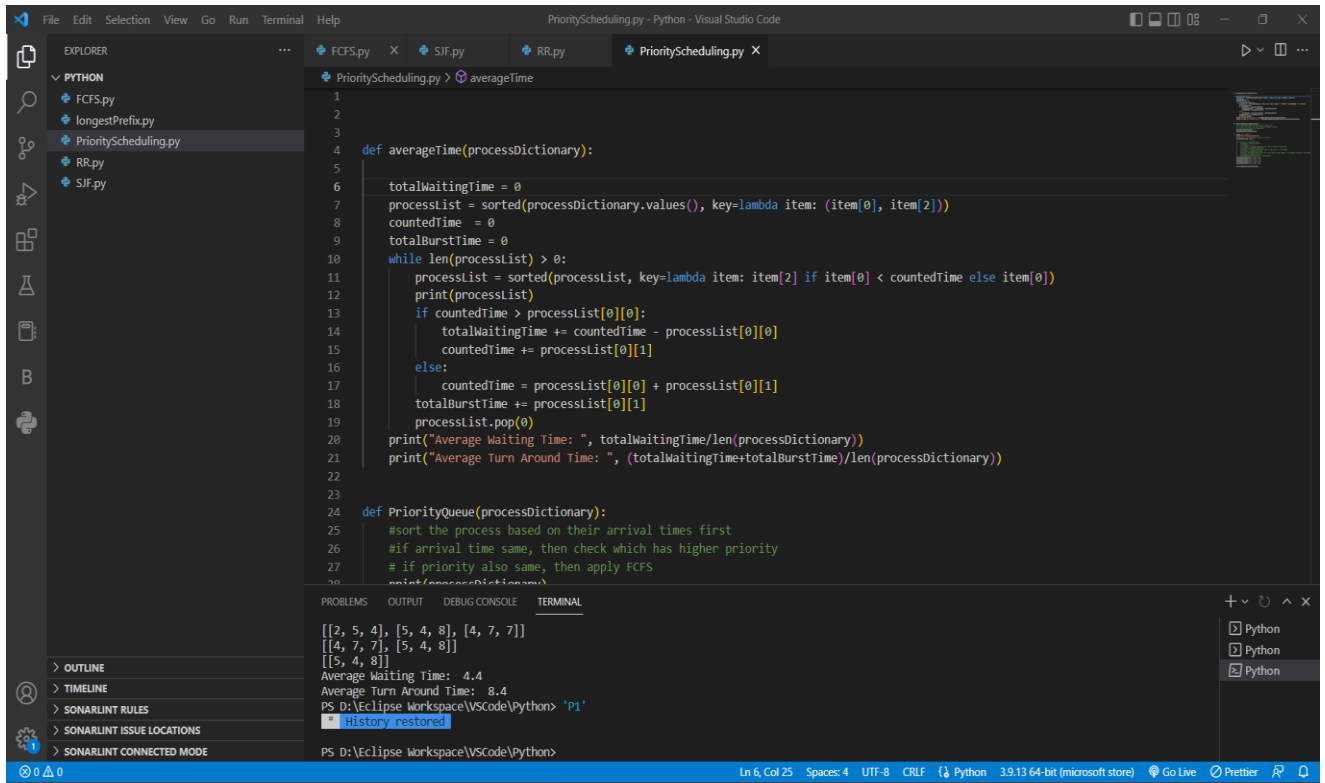
3.3 Notebook in google Colab

It is simple to set up, access, and share Colab notebooks, which are Jupyter notebooks that operate in the cloud and are tightly connected with Google Drive. Please take some time to explore the Google Colab welcome site if you are not familiar with Jupyter notebooks or Google Colab.
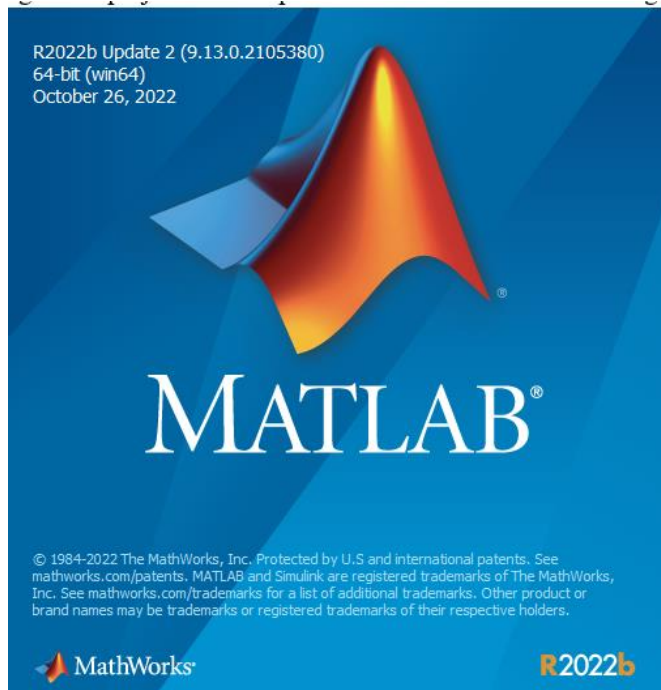

3
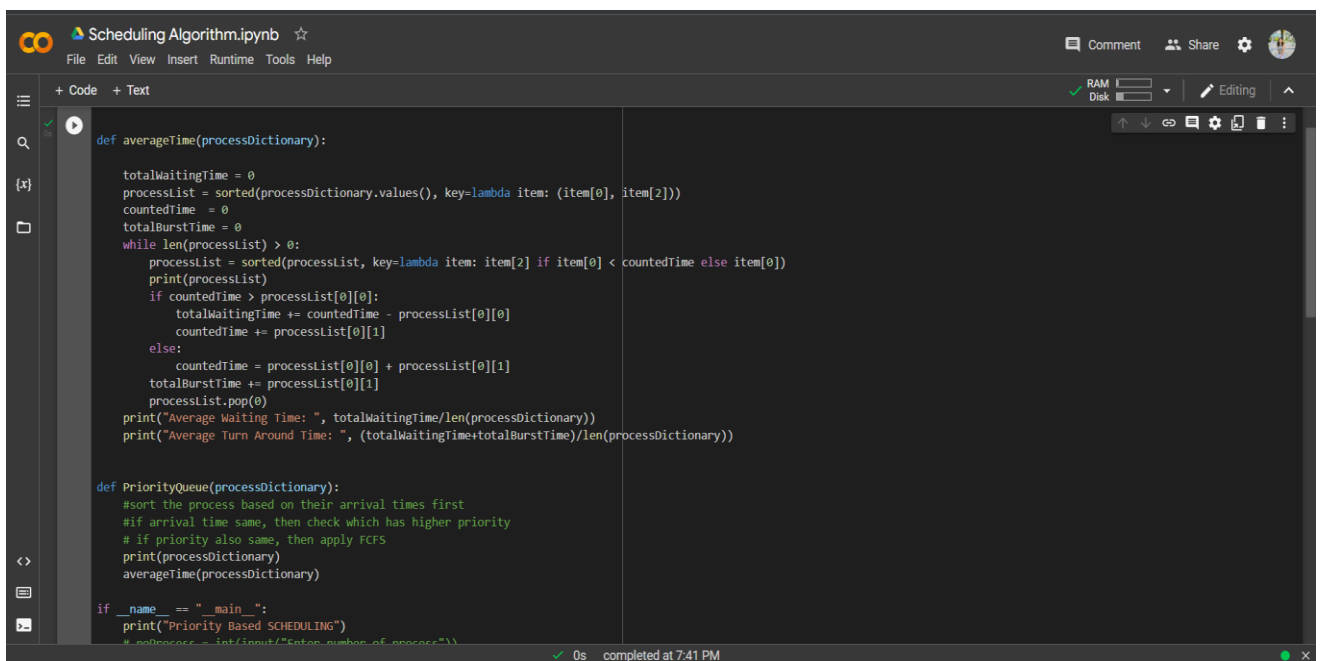
The scheduling algorithm project was compiled and executed in Notebook in google colab.

3.4   Matlab Installation

Simulated CPU scheduling algorithm in matlab and compared their performance.

Version installed -

MATLAB is the programming environment to study, create, and test systems and technologies that will change the world. The core of MATLAB is the MATLAB language, a matrix-based language permitting the most natural exposition of computational mathematics.
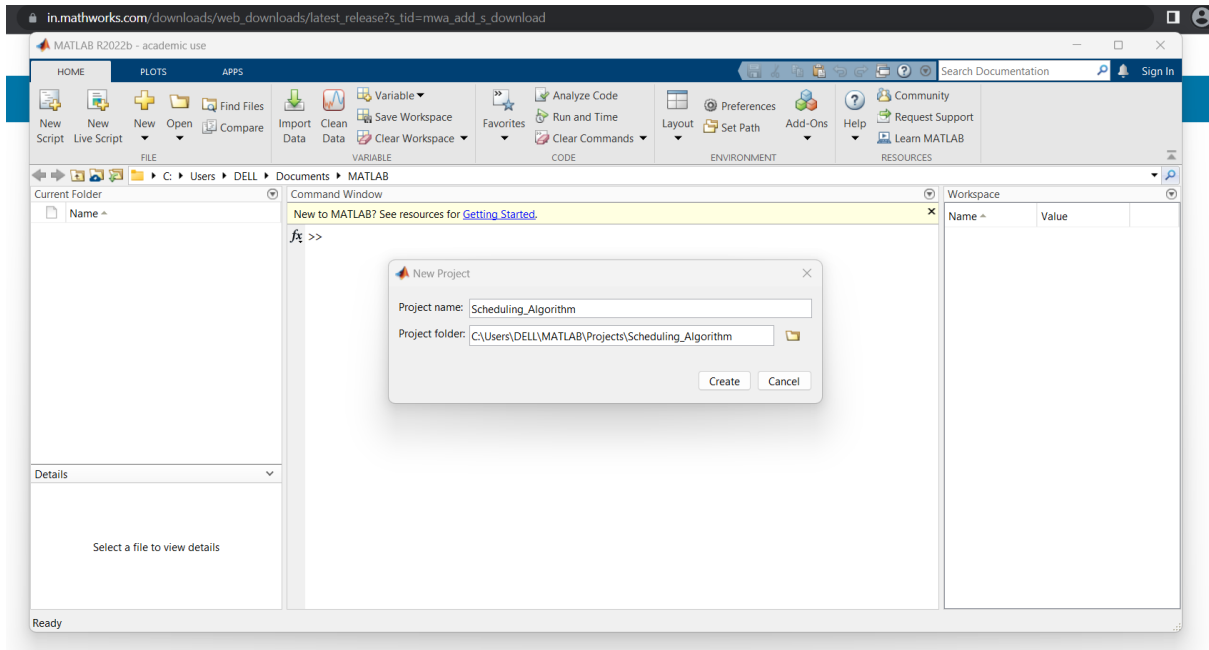
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