

Ministry of higher Education  
and Scientific Research  
University of Diyala  
College of Science  
Department of Computer Science



## Student Attendance System

This research was presented to the Council of the College of Science- University of Diyala -Department of Computer as part of the requirements to get a bachelor's degree in Computer science

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1441 A.H

2020 A.D

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿ وَلَوْ أَنَّمَا فِي الْأَرْضِ مِنْ شَجَرَةٍ أَقْلَمٌ وَالْبَحْرُ يَمُدُّهُ،

مِنْ بَعْدِهِ سَبْعَةُ أَبْحُرٍ مَا نَفِدَتْ كَلِمَاتُ اللَّهِ

﴿ إِنَّ اللَّهَ عَزِيزٌ حَكِيمٌ ﴿٢٧﴾ ﴾

صدق الله العظيم

سورة لقمان آية ٢٧

## الاهداء

في مثل هذه اللحظات يتوقف اليراع ليفكر قبل ان يخط الحروف  
ليجعلها في كلمات تتبعثر الاحرف وعبثا ان يحاول تجميعها في  
سطور كثيرة تمر في الخيال ولا يبقى لنا في نهاية المطاف الا قليلا  
من الذكريات وصور تجمعنا برفاق كانوا الى جانبنا فواجب علينا  
شكرهم ووداعهم ونحن نخطو خطواتنا الاولى في غمار الحياة  
ونخص بالجزيل الشكر والعرفان الى كل من اشعل شمعة في  
دروب عملنا والى من وقف على المنابر واعطى من حصيلة فكره  
لينير دربنا الى الاساتذة الكرام والى الاصدقاء الاعزاء .

## شكر وتقدير

الحمد لله الذي انزل القران شفاء ورحمة للمؤمنين والصلوة والسلام على من اعطي  
السبع المثاني والقران العظيم وعلى اله اجمعين الذين رفعوا بهمهم العالية اعلام  
الدين وعلى اصحابه الذين امنوا به وازروه ونصروه واتبعوا النور الذي انزل معه  
الذين ابلوا البلاء الحسن بنصرته واقامة دينه.

وبعد...

احمد الله والثناء عليه جلت قدرته على توفيقه باتمام هذا الجهد العلمي المتواضع  
فيطيب لي ويهيج نفسي ان اتوجه بالشكر والامتنان الى الاهل الذين ساندونا وكانوا  
نعم العون في كل الظروف والشكر والتقدير للدكتور طه محمد حسن.

## ABSTRACT

The world is living now in a new world revolution, information revolution which is connecting with technology information age and the center of the world moved from revolution in to knowledge.

Today, the human societies base on knowledge on ton wealth, then the knowledge became the center of progress and extensive information dos not mean anything if society cannot used these information wisely.

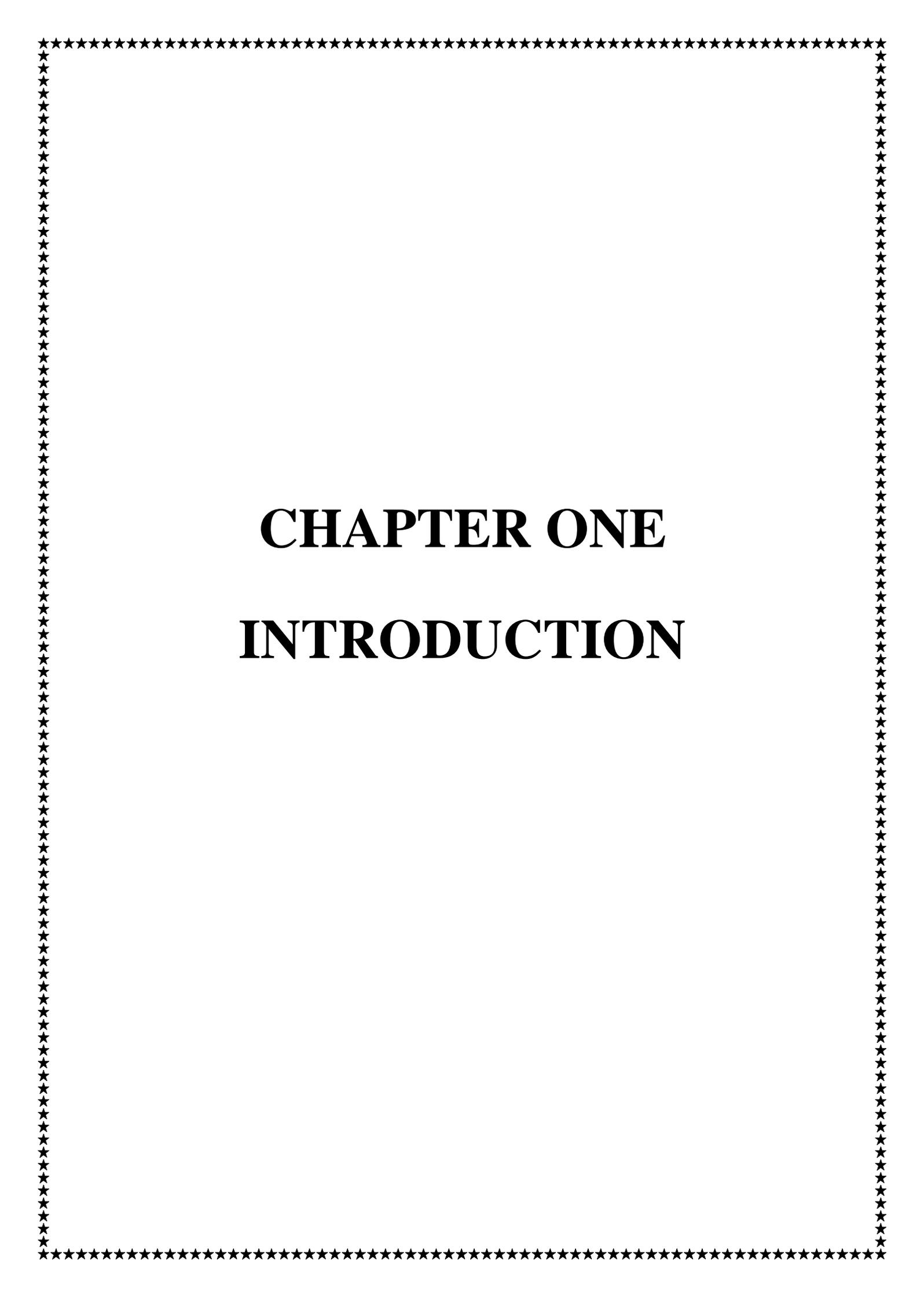
Where programming languages and design have been used in this work which include JavaScript, VB.NET, SQL Database.

So as to give the format and programming required

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**CHAPTER ONE**

**INTRODUCTION**

## **1.1 Introduction**

The world is living now in a new world revolution, information revolution which is connecting with technology information age and the center of the world moved from revolution in to knowledge. Today, the human society's base on knowledge on ton wealth, then the knowledge Became the center of progress and extensive information dos not mean anything if society cannot use this information wisely [1].

The gap between advanced countries and developing or growing countries become a knowledge men gap because of huge information in revolution information technology and telecoms. The information became an important resource to the person and society; the electronic chips begin to play a basic role such a coal which is a basic thing in the past when the industrial revolution was so important. A technology gap approach to why growth rates differ [2].

The modern technology contains the digital technology in twenty-first century. This advanced shorten the time between any two areas on the earth because of using electronic network. The information revolution is connecting with information technology through using computer System and telecom system [1].

## **1.2 What is ICT and Why**

ICT (information and communications technology - or technologies) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. In general there are some

important things as the requirements for the implementation of ICT, there are [3]:

1. The availability of tutor support services that can help The candidate when Learning difficulties.
2. The existence of government officials / managers of ICT.
3. The existence of the positive attitude of the candidates and educators on computer technology.
4. Availability of learning system design that can be learned / known by every the candidate.
5. Scientific Promotion System progress and feedback mechanisms Developed by the organizers.

### **1.3 Problem of the Current System**

Due to the manual means been used by the university, keeping information about Applicant or candidate clearance, a lot problems are encountered which includes:

1. Solve the problem of delay
2. Unavailability of some key staffs while processing data, which leads consuming in time and effort.
3. Lose of vital document as the filing system is manual.
4. Take a lot of time to retrieve a particular student data form.

### **1.4 Research Objective**

The aim of this study is to develop the work of the college or the university and move from the traditional work to electronic or electronic Work and keep abreast of developments and shorten the time and effort

### **1.5 Research Scope**

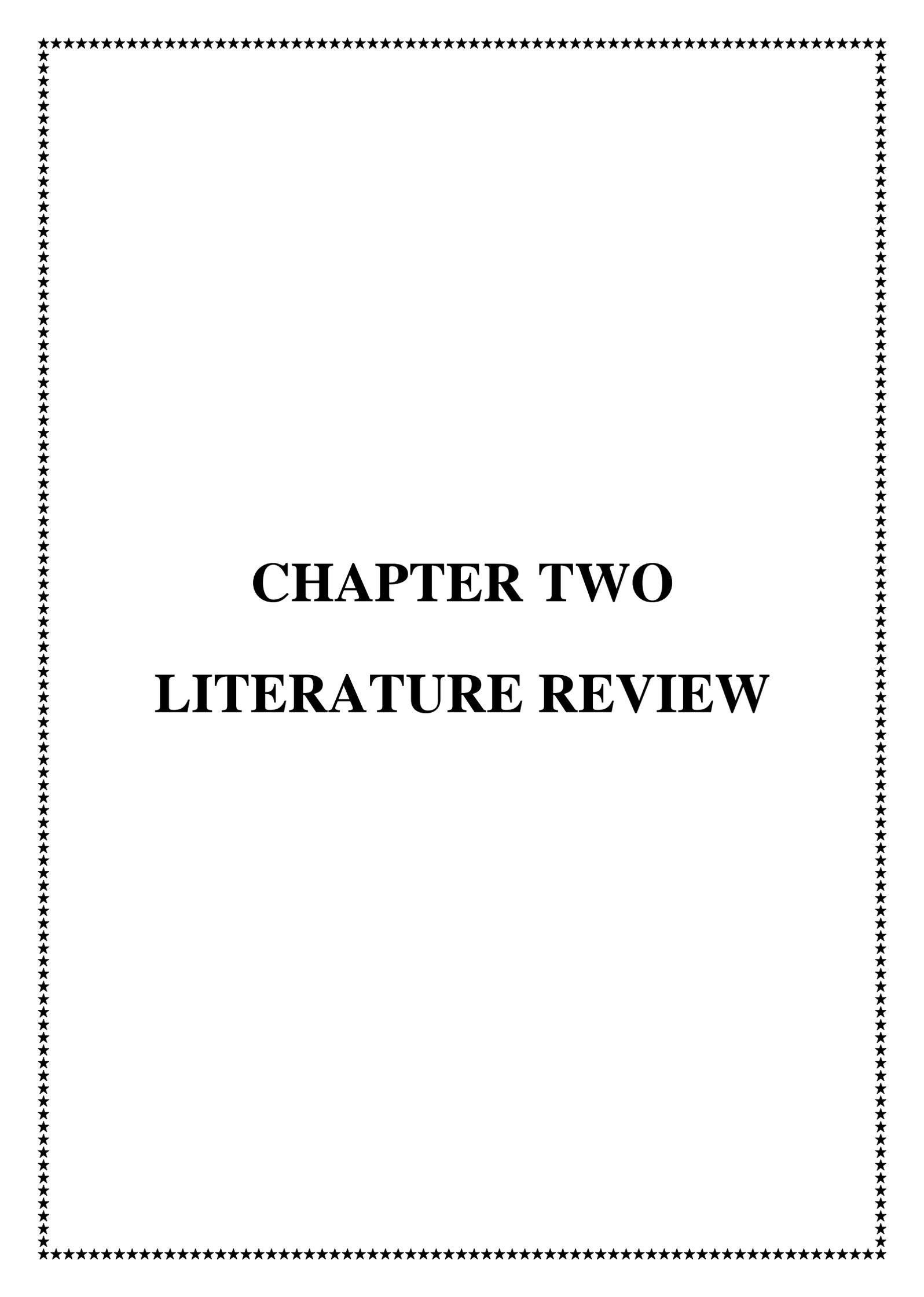
The research work focuses on enhancing Students' attendance process of students That is one of the more established Colleges in Diyala University. It is chosen as a case study, to explore its current evaluation system, as well as to develop Students' attendance System that can be used to increase efficiency of college

### **1.6 Expected Contribution / Benefit**

The contributions of this study are to provide support to College of Science in Diyala University to implement modernized techniques of College management especially in Student attendance System.

The current Students' attendance in College of Science needs to change it from traditional or manual system to technical or automated system.

Finally, this study is specific to assist College of Science to achieve their goals and strategy in reducing the time and efforts to provide unique products



**CHAPTER TWO**

**LITERATURE REVIEW**

## 2.1 Role of Information Technology in the Academic System

The introduction of computer into information technology has massively improved the information need of organization; the success of this machine is dependent on the knowledge base. Therefore, one can be prompted to ask aloud “what is a computer” defined a computer as An electronic device that can perform automatically at a high speed of A sequence of logical operations according to instructions giving to it inform of pre-arranged program [4].

Define a computer as an electronic device capable of accepting data and instruction; process the data base on the instruction to generate result or output in such a manner that is yet to be equaled by any other known machine to mankind [5]. Define computer by saying that computers are looked upon as obedient servants who are ever ready to free man from tedious procedures and produce result as compared with human computing time [6].

Define a computer as a machine that is capable of accepting input data, store and process the data base on the instructions giving by the computer users and in this way produce expected result, generally called output [7].

World net describes an information system (I.S) as systems consisting of all communication channels used within an organization and include software and hardware. It may also be define as a system that collect and process data (information) and provide it to manager of all levels that use it for decision making, planning, program implementation and control.

The aim of information system to admission, registration, result processing and Upgrade in universities using computer software based computer system is to improve the quality and accuracy of information provided to all involved as well as assisting universities in compiling and

reporting information, making work lesser for the management.

Information technology has been an integral part of academic system since almost four decades.

The world is entering an era in which technology will literally transform every aspect of business, every aspect of life and every aspect of society [8]. Since the arrival of internet technology, school system has taken a new shape style with a blend of convenience and satisfaction.

That computer base education includes both computer-assisted instruction programs that interact with students in a dialogue and a broader array of educational computer applications such as simulations or instructions in computer programming. Learning from a student bedroom, office or anywhere in the world has made its way into university system

With the advent of internet technology.

Information technology has always helped the university system to educate student in better way. To explain few examples, the candidate online Upgrade is a method where the candidate obtains his/her Upgrade letter without carrying files around. This is safe, fast and has no hazels.

Filling out the documents and comparing options and writing for

Approval is a time consuming process. Through the internet, this process is made much easier and sometimes the approval is made within minutes.

This explains an efficient way of obtaining and saves time and money for the candidates [9].

## 2.2 Data and Information

The concept of data and information are very important in understanding issues that go with development and implementation of a computer software based online clearance system. The term “data” and “information” are used interchangeably every day conversation as meaning the same thing. Too many manager and information specialist. However, these terms have distinct meaning.

Data simply consist of raw unprocessed facts while information is a data that have been processed by the computer [10]. Gives the following definition of data; a graphic or textual representation of facts concepts, numbers, letters, symbols or instructions suitable for communication, interpretation or processing.

Data is the basic element of information that is use to described objects, ideas, conditions or situations [11]. Defines data and information as Data is fact events, transactions and so on, which have been recorded.

They are the raw materials from which information is produced.

Information is data that has been produced in such a way as to be useful to the recipient. Data are fact obtained by observation, counting, measuring, weighing etc.

Which are often records of day-to-day transactions of the organization.

For example the date, amount, and other details of an invoice or Cheese, payroll details of payment, the number of a student living in a particular hostel and soon [10].

That concept of information in an organization sense is more complex and difficult than the frequent use of this common word would suggest [11]. That information is data that have been processed, transmitted by the recipient, interpreted and understood by the recipient.

Here it should be noted that the user, not just the sender is involved in The transformation of data into information. There is a process of thought and understanding involved and it follows that a given message can have different meaning to different people.

Based on this, one can conclude that data which has been analyzed summarized or processed in some other fashion to produce a message or report which is conveniently deemed “management Information” only becomes information if it is understood by the recipient. Therefore it is the user who determine whether a report contains information or just processed data [12].

### **2.3 Technology Enhance Computer Software Based Upgrade System**

According to Jeremy v Ernest, a comparison of traditional and hybrid online system in communication technology Online system has become a central element of the discourse on higher education [17].

There seems to be an overall derive towards online system given the Mountain need for flexibility in scheduling and the daily emergency of communication technology and capabilities [9].

Online system is presented as a means of conveying instruction to an extensive learning community any place at any time. Indicate that adequate designate online learning as the driving force and model for transformation in teaching, learning and formal schooling online course has the potential to provide learner individualized attention by the instructor, otherwise impossible in a large classroom environment [11].

With the continued development of online system applications, many colleges and universities has begun to offer online courses as an

alternative to traditional face-to-face instructions. 67% of colleges and universities agreed that online education is the most logical long term strategies for their institutions [7].

However, there are considerable hesitations rising predominantly related Quality and The candidate respectively to online system, just as their advantages there are also disadvantages to the online system instruction delivery method.

There is evidence through previous research that The candidate fill isolated or disconnected when not engaged in traditional face- to- face instruction, while other report indicate large success. There remains a lack of clarity whether online courses are as affective as traditional courses [8].

While there has been vast amount of research conducted on the advantages and the disadvantages of online system institution, little is known on how assessment is used in online classroom to monitor performance and progress (Liang and Jeremy v Ernest Jeremy\_ernest @ NCSU.edu) is an assistant professor in the department of mathematics science and technology education at North Carolina state university Ralugh.

Describe the evaluation of current online education system at three levels; the macro level, the mesa level and micro level. The macro level is an online evaluation that access an entire online program, the mesa level evaluation access individual online courses, and the micro level access the learning of the online student [7].

Online Upgrade system present educational experience very different from standard face-to-face environment. When conducting a micro level courses evaluation, interest commonly lies in learner perception of the course experience pertaining to the level of comfort, ability to

Communicate with class mate and the instructor, as well as comparison to traditional face-to-face lecture.

Many times the only means of evaluating learner perception is in the form of a questionnaire or survey. Although perception of online system can be extremely useful information, it is usually not sufficient to conclude the evaluation without expanding to learners understanding.

## **2.4 Computer-Based Information System**

An information specialist define computer based management information system as the combination of human and computer based resource that result in the collection, storage, retrieval, communication and use of data for the purpose of efficient management of operations And for business planning.

Computer based information system is a feature of all large organization nowadays. The literature identifies four kinds of computer based information: Transaction processing system (TPS), management information system (MIS), decision support system (DSS) and executive Support system (ESS). Some system record routine activities: Employees hired, material purchased or produced and the like. Such recorded events are called transactions.

Other system uses this recorded event to help managerial planning and control. The systems form a pyramid each primarily supporting one another level of management [10].

a. Transaction processing system (TPS): these system record day-to-day transactions such as customer order, bills, inventory levels and production output. The TPS helps supervisors by generating data base that act as foundation for other information system.

b. Management information system (MIS). These summarize the detailed data of the transaction processing system standard report for middle level

managers. Such report might include production schedules and budget summarizes.

c. Decision support system (DSS); The DSS provide the flexible tools for analyzes. The DSS help middle level managers and other in the organization analyze a wide range of problem, such as effect of event and trend outside the organization. Like the MIS, the DSS draws on the Detailed data of transaction processing system.

d. Executive support system (ESS): The ESS is easy to use systems that present information in a very highly summarized form. It helps top level management to oversee the company operation and develop strategic plans. The ESS combines internal data from TPS and MIS with External data.

## **2.5 Data Bases**

In the early days of computerization, it was normal to maintain specific files for individual application. Data where processes centrally in batches and there was little or no online interrogation of data. This approach is wholly inefficient for most of today's data processing systems.

Supporting this enumerated the problems that result from organizing the data using the file system [13].

a. There exist high redundancies between files which result from the fact that the information is replicated in different places, and that these replications are not controlled by a central monitor

b. Inconsistencies might result from the possibilities that a program makes changes on the files it uses without these changes being made (at the same time) by all other programs that uses the files.

**c.** There exist in flexibility against changes in the application: if new actions or event arise in the cause of time, these can be realize at a substantial expense of time.

**d.** The work of many programmers involved is characterize by low productivity, seems program maintenance is expensive: if the structure of an existing file has to be modify during it life time, then all application program has to be modify correspondently.

**e.** Finally, there is the problem of adopting and maintaining standard (with respect to coding data format etc.), which is important for exchanging data or for migration to new operating system Released, or even to a new computer system.

To overcome these problems, data bases where developed. It is now common for large organization to organize their operational data using the data base technology. The subject of data is adequately covered in many works in data base technology.

Data base as a collection of data supporting the operation of an organization. Quoting CIMA, provide a more detailed definition [13]. A data base is a file of data structured in such a way that it may serve a number of application without it structure being dictated by any one of those application, the concept being that programs are written round the data base rather than files being structure to meet the need of particular programs[10].

Dealt extensively on the need for the use of computer on such data base system like computerized clearance system [6]. In the world “At the center of any information system is a data base, which is any collection of related information grouped together as a simple item [5]. The term can also apply to the ways in which information is catalogued, analyzed, stored and used manually”. The view that without computer, effective

handling of candidate record cannot be achieved effectively in a data base, all the data is defined together rather than each file being Define separately [7].

In fact, all the literature consulted seems to support the fact that a data base is a collection of structured data with the structure of data being independent of any particular application.

Specify the need for data base [10], listed the following advantages:

- a.** Sharing: in an organization, information from one department can be readily shared with others.
- b.** Security: users are giving password or access only to the kind information they need to know. Thus, the payroll department may have access to employees pay rate but they would not.
- c.** Fewer files: with several departments having access to one files, there are fewer files therefore, excess storage or what is called redundancy is reduced.
- d.** Data Integrity: older filing system many times did not have integrity i.e. a change made in the file in one department might not be made in the file in another department. As one might expect, these can cause serious problems and conflict when data is used for important decision affecting But department. To advantages enumerated above, at abs [4].

- a.** Standard/access protocols can be enforced.
- b.** Currency of data can be maintained.
- c.** Data/program independent can be maintained.
- d.** Conflicting requirement can be balanced among users.

In these days of integrated networks, the database appeared as the most logical method for organizing the operational data of large organizations. One may as well say that these advantages give the database the attraction over the traditional file processing method.

## **2.6 Visual Basic .NET (VB.NET)**

Is a multi-paradigm, object oriented programming language, implemented on the .NET Framework. Microsoft launched VB.NET in 2002 as the successor to its original Visual Basic language. Although the ".NET" portion of the name was dropped in 2005, this article uses "Visual Basic [.NET]" to refer to all Visual Basic languages releases since 2002, in order to distinguish between them and the classic Visual Basic.

Along with Visual C#, it is one of the two main languages targeting the .NET framework. Microsoft's integrated development environment (IDE) for developing in Visual Basic .NET language is Visual Studio.

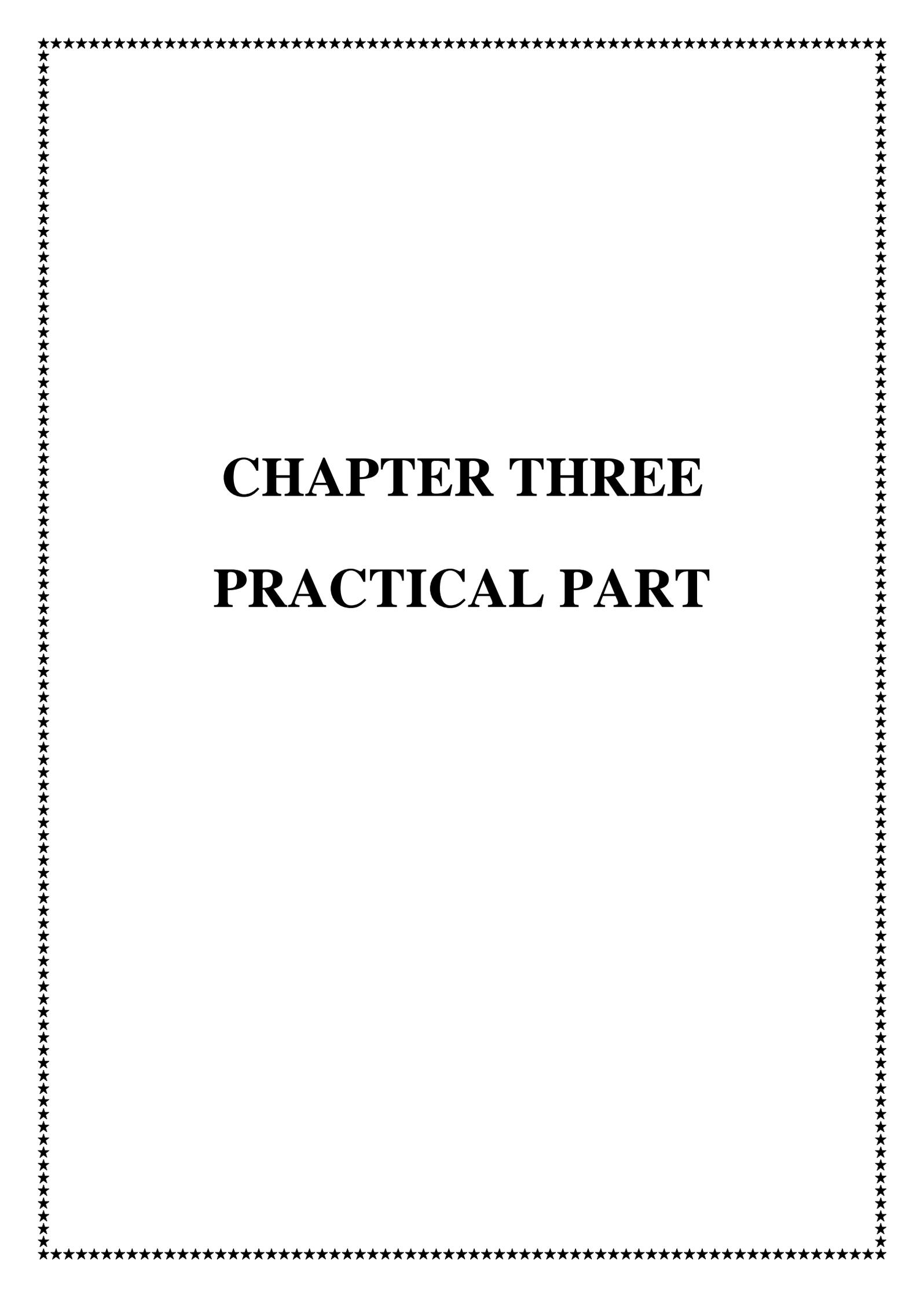
Most of Visual Studio editions are commercial; the only exceptions are Visual Studio Express and Visual Studio Community, which are freeware. In addition, .NET Framework SDK includes a freeware command-line compiler called vbc.exe. Mono also includes a command-line VB.NET compiler its advantages are:

1. Easy and fast language for creating Windows applications.
2. It supports object oriented programming, but not fully.
3. Visual Basic is the object language of the curve.
4. Easy to learn and understand.
5. Easily detectable errors.
6. When you write correct commands, they give you examples to confirm that the code is correct.
7. Allows you to skip some errors when typing a specific code.

## **2.11 SQL (Structured Query Language):**

Is a standard interactive and programming language for getting information from and updating a database Although SQL is both an ANSI and an ISO standard, many database products support SQL with proprietary extensions to the standard language.

Queries take the form of a command language that lets you select, insert, update, find out the location of data, and so forth. There is also a programming interface Stonebreaker [15].



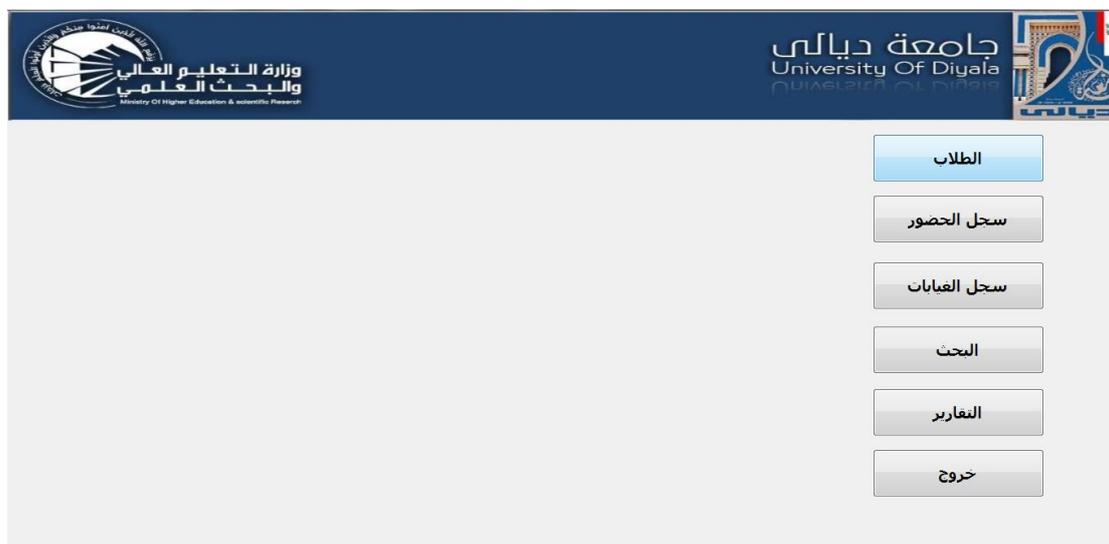
**CHAPTER THREE**

**PRACTICAL PART**

### 3.1 Chapter Summary:

- 1- Main page.
- 2- Attendance Record.
- 3- Record absence.
- 4-Search page.
- 5- Reports.

### 3.2 Main Page:



وزارة التعليم العالي والبحث العلمي  
Ministry Of Higher Education & Scientific Research

جامعة ديالى  
University Of Digiya

الطلاب  
سجل الحضور  
سجل الغيابات  
البحث  
التقارير  
خروج

### 3.3 Attendance Record:



رجوع

للحضور تكتب رقم صغر  
للغياب تكتب رقم واحد

2020 السنة الدراسية  
المرحلة الدراسية  
اختار المادة

تحميل البيانات

اسم الطالب	المرحلة الدراسية	السنة الدراسية	الحضور	وقت و تاريخ الحضور	المادة
*					

حفظ البيانات

### 3.4 Record absence:

اسم الطالب	المرحلة الدراسية	السنة الدراسية	الحضور	وقت و تاريخ الحضور	المادة
*					

#### 3.4.1 Search page:

رجوع

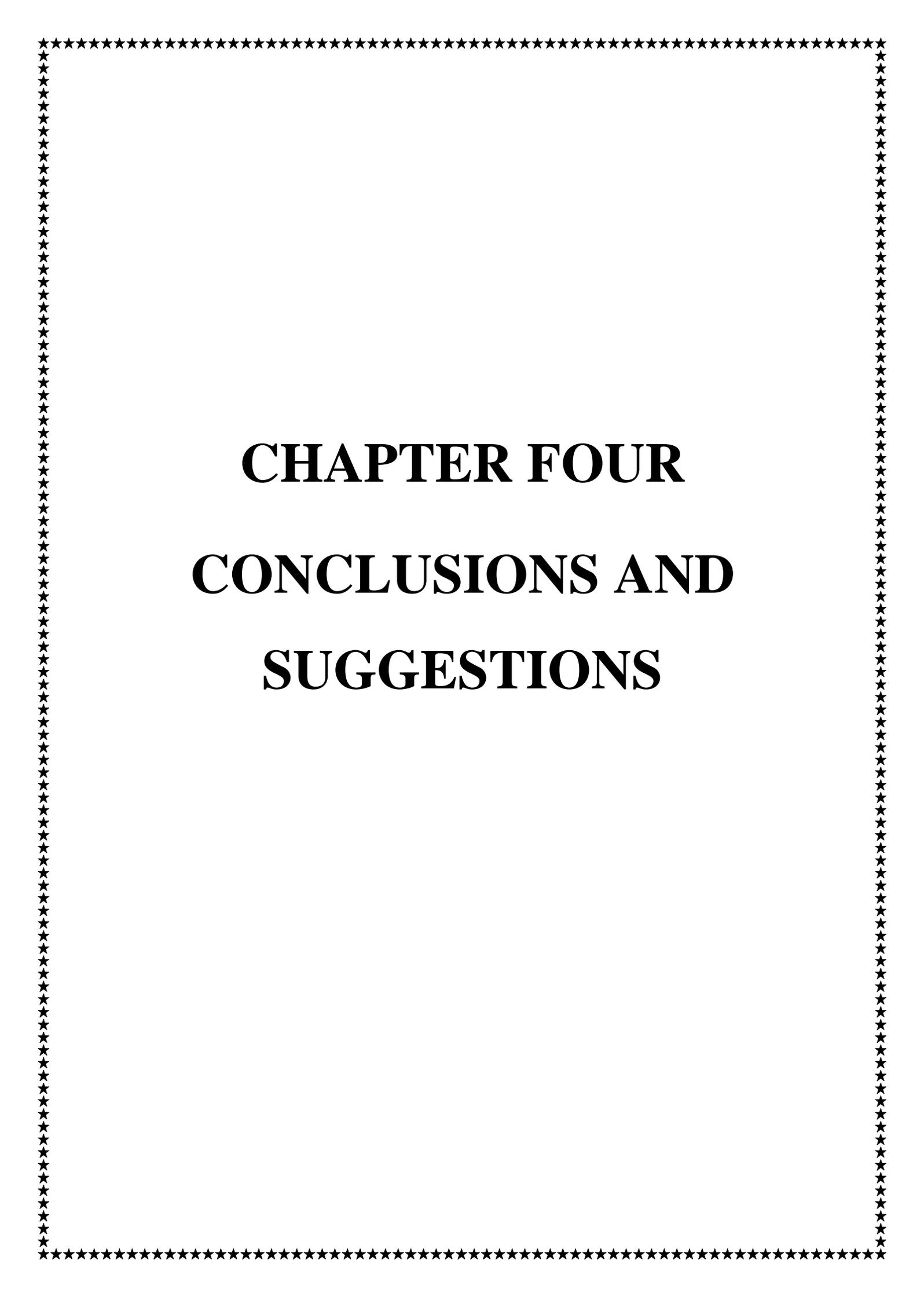
بحث بالاسم  بحث بالتاريخ  البحث بالمرحلة الدراسية

بحث

#### 3.4.2 Reports:

1 of 1 100% Find | Next

اسم الطالب	احمد
المرحلة	
السنة	
المادة	
الحضور	0
التاريخ	
مجموع الحضور	0
مجموع الغياب	0



**CHAPTER FOUR**

**CONCLUSIONS AND**

**SUGGESTIONS**

## **4.1 Conclusion**

In this research we have built a scientific Student attendance system at the university using VB application language, which added high flexibility in the storage process providing data. Finally, our project is able to find the final result of the applicant or individual and then print the remote result. ,This application provides a convenient service for both applicants Time and effort in the submission process

## **4.2 Suggestions**

Our suggestions for future work are:

1. We aspire to add new tools for security .
2. Wish to adopt the system to be used at University of Diyala.

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وزارة التعليم العالي  
والبحث العلمي  
جامعة ديالى  
كلية العلوم  
قسم علوم الحاسوب

المشروع بعنوان  
نظام حضور الطلاب

تم تقديم هذا البحث إلى مجلس جامعة ديالى  
كلية العلوم- قسم الحاسوب كجزء من متطلبات الحصول على درجة البكالوريوس في  
علوم الحاسوب

بواسطة  
ابراهيم خليل ابراهيم  
&  
شمس عامر علي

تحت اشراف  
د. طه محمد حسن