DELHI PUBLIC SCHOOL

ACADEMIC YEAR : 2021-22

PROJECT REPORT ON

"COMPUTER INSTITUTE MANAGEMENT SYSTEM"

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CLASS : XII – B

ROLL NO : 14

SUBJECT : COMPUTER SCIENCE

SUB CODE : 083

PROJECT GUIDE : Mr. SANJAY PANDEY

(Teacher In-Charge)

DELHI PUBLIC SCHOOL, B.S.CITY

CERTIFICATE

This is to certify that **CHANDAN KUMAR** Roll No: **22658149** has successfully completed the project Work entitled **"COMPUTER INSTITUTE MANAGEMENT SYSTEM."** in the subject Computer Science (083) laid down in the regulations of CBSE for the purpose of Practical Examination in Class XII to be held in **DELHI PUBLIC SCHOOL** on_____.

(SANJAY PANDEY)
Teacher In-Charge

Examiner:

Name: _____

Signature:

Date:

ACKNOWLEDGEMENT

Apart from the efforts of me, the success of any project depends largely on the encouragement and guidelines of many others. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this project.

I express deep sense of gratitude to almighty God for giving me strength for the successful completion of the project.

I express my heartfelt gratitude to my parents for constant encouragement while carrying out this project.

I gratefully acknowledge the contribution of the individuals who contributed in bringing this project up to this level, who continues to look after me despite my flaws,

I express my deep sense of gratitude to the luminary **The Principal, Delhi Public School B.S.City** who has been continuously motivating and extending their helping hand to us.

I express my sincere thanks to the academician The **Vice Principal, Delhi Public School B.S.City**, for constant encouragement and the guidance provided during this project

I am overwhelmed to express my thanks to **The Administrative Officer, Delhi Public School B.S.City** for providing me an infrastructure and moral support while carrying out this project in the school.

I shall fail in my duty if I didn't thank **Mr. Sanjay Pandey**, Teacher In-charge, A guide, Mentor all the above a friend, who critically reviewed my project and helped in solving each and every problem, occurred during implementation of the project

The guidance and support received from all the members who contributed and who are contributing to this project, was vital for the success of the project. I am grateful for their constant support and help.

TABLE OF CONTENTS

PREFACE

To develop a system that will overlook the activities going inside the particular institutions without manual processing. All information should be updated automatically by using the information stored in the database by providing a GUI interface to the end user. The main motive behind this project is to develop a system which will able to handle the overall tasks going inside the institutions without much effort.

INTRODUCTION

The **Computer Institute Management System** is a software used to register oneself for a course in a **SSA Computer Institute**.

Note :

- Allow the user to input their number, name, desired course
- Allow the administrator to delete an enrollment, edit the name and course of a candidate.
- Allows the user to see the details.

OBJECTIVES OF THE PROJECT

The objective of this project is to let the students apply the programming knowledge into a real- world situation/problem and exposed the students how programming skills helps in developing a good software.

- Write programs utilizing modern software tools.
- Apply object oriented programming principles effectively when developing small to medium sized projects.
- Write effective procedural code to solve small to medium sized problems.
- Students will demonstrate a breadth of knowledge in computer science, as exemplified in the areas of systems, theory and software development.
- Students will demonstrate ability to conduct a research or applied Computer Science project, requiring writing and presentation skills which exemplify scholarly style in computer science.

Scope of the Project

Any Institute/College/School faces various difficulties in managing student and staff member's records along with its various attributes associated with this system. They have to maintain various records manually which involves making attendance sheets, making exam results, making payment sheets and defaulter lists and many more. They have to check manually for each and every activity going inside particular institutions. To overcome this problem a computer-based Institute Management System is required.

- They Can Enter Student Registration Easily.
- Record are Easy to Maintain Using Computerized System.
- The Paper Work Is reducing.
- The Report Are Easily Generated.
- Student & Course Information Is Easily Update.
- It Is Secure.
- Save Time & Money.

THE EXISTING SYSTEM

Current system is not able to maintain dynamic information and not able to keep records of that particular event. To maintain all these records, they have to use old process of record keeping system that is by using files and papers. This information can be misused or may include fault entry which will not able to provide correct

information. If any error occurs then manual searching and updating process required to correct that particular information.

- At present all the information maintained in the current system is manually.
- The registrations of students are done by filling the form so the institute to keep all the form to keep the records of student.
- If the institute has to search information of particular student, he has to check all the form.
- That will take loss of extra time and it will put burden on the person managing all this.
- It is not secure.

PROPOSED SYSTEM

Today one cannot afford to rely on the fallible human beings of be really wants to stand against today's merciless competition where not to wise saying **"to err is human"** no longer valid, it's outdated to rationalize your mistake. So, to keep pace with time, to bring about the best result without malfunctioning and greater efficiency so to replace the unending heaps of flies with a much-sophisticated hard disk of the computer.

One has to use the data management software. Software has been an ascent in atomization various organizations. Many software products working are now in markets, which have helped in making the organizations work easier and efficiently. Data management initially had to maintain a lot of ledgers and a lot of paper work has to be done but now software product on this organization has made their work faster and easier. Now only this software has to be loaded on the computer and work can be done.

This prevents a lot of time and money. The work becomes fully automated and any information regarding the organization can be obtained by clicking the button. Moreover, now it's an age of computers of and automating such an organization gives the better look.

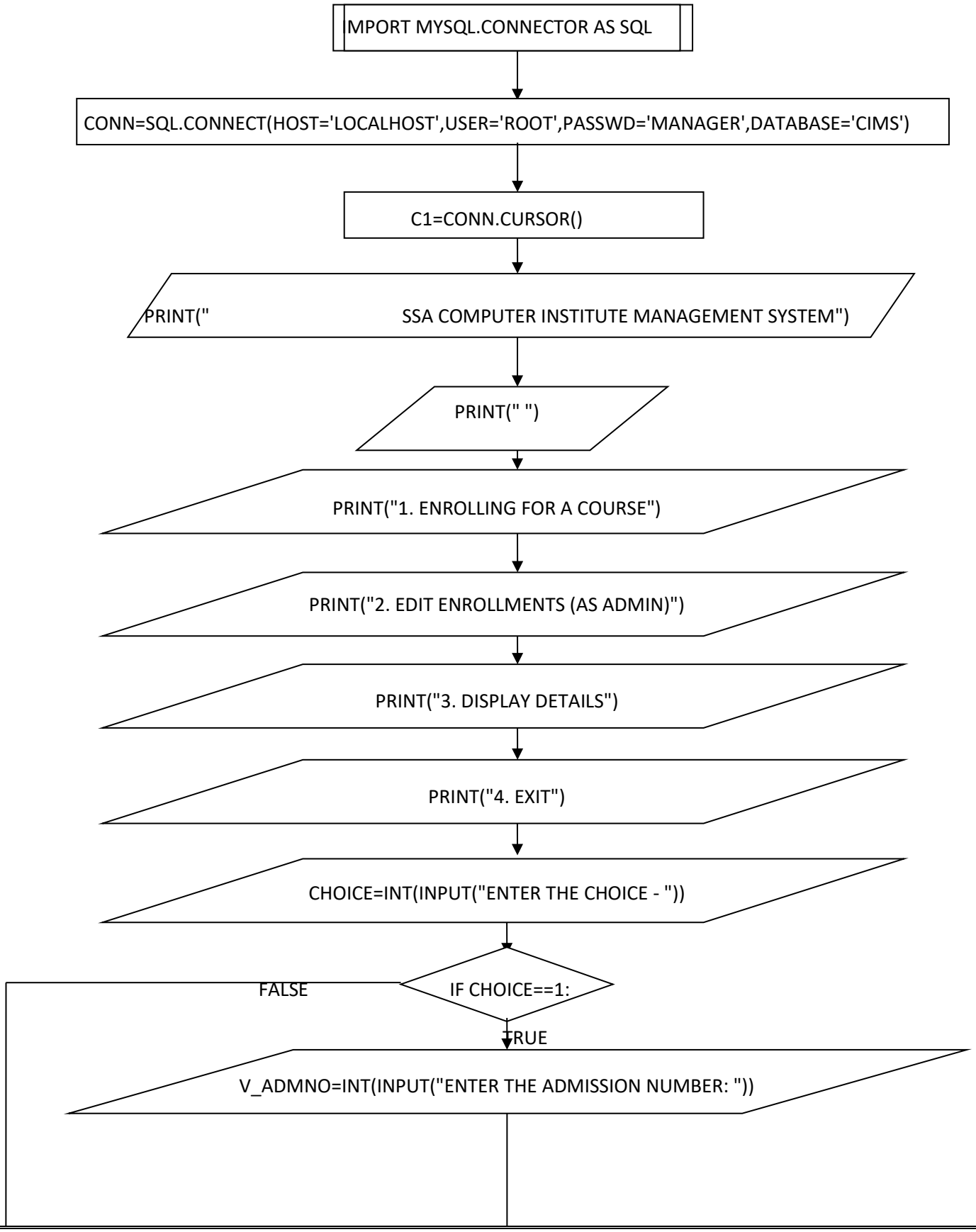
HARDWARE AND SOFTWARE REQUIREMENTS

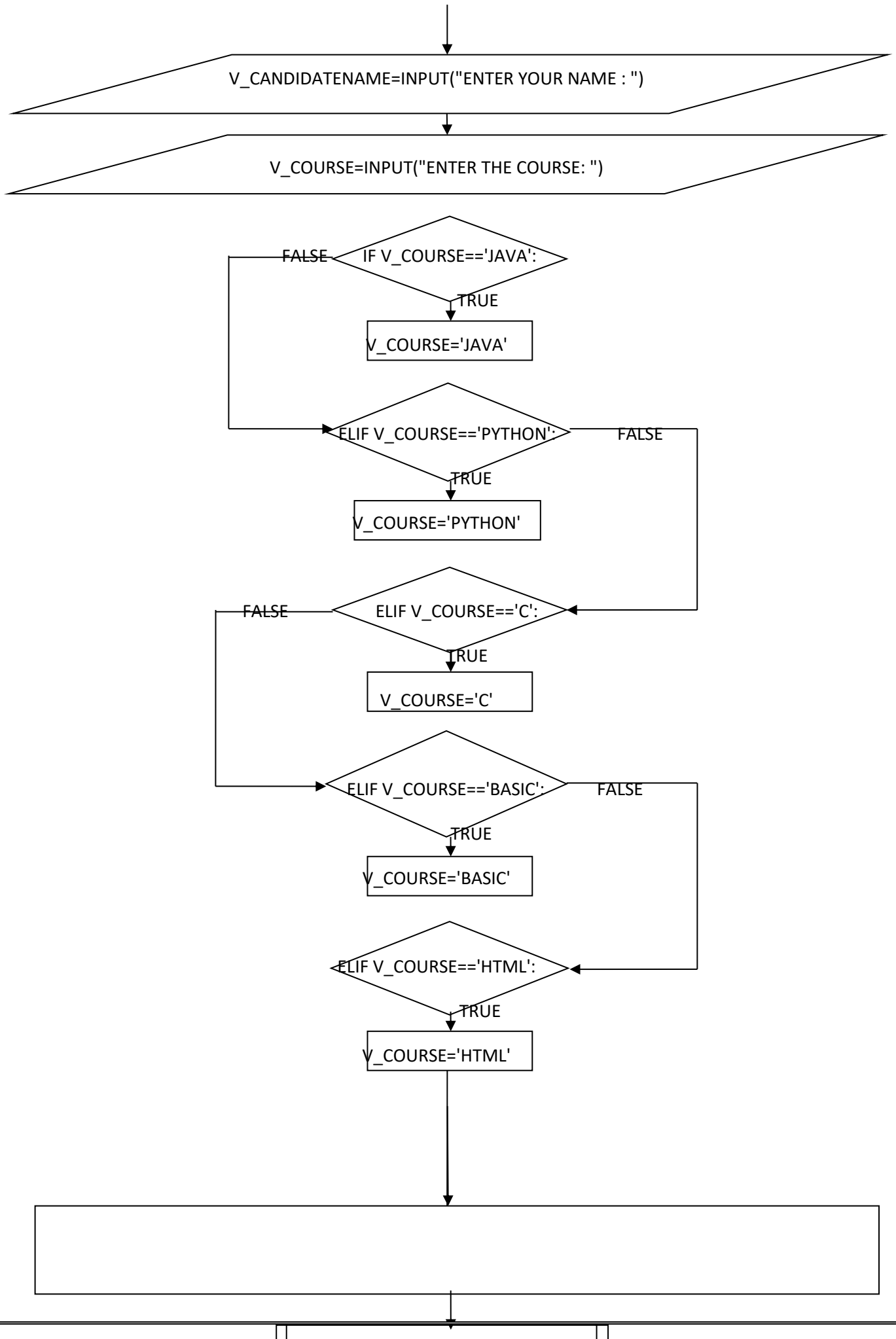
I.OPERATING SYSTEM	:	WINDOWS 7 AND ABOVE
II. PROCESSOR	:	PENTIUM(ANY) OR AMD ATHALON (3800+- 4200+ DUAL CORE)
III. MOTHERBOARD	:	1.845 OR 915,995 FOR PENTIUM 0R MSI K9MM-V VIA K8M800+8237R PLUS CHIPSET FOR AMD ATHALON
IV. RAM	:	512MB+
V. Hard disk	:	SATA 40 GB OR ABOVE
VI. CD/DVD r/w multi drive combo:		(If back up required)
VII. FLOPPY DRIVE 1.44 MB	:	(If Backup required)
VIII. MONITOR 14.1 or 15 -17 inch		
IX. Key board and mouse		
X. Printer	:	(if print is required – [Hard copy]

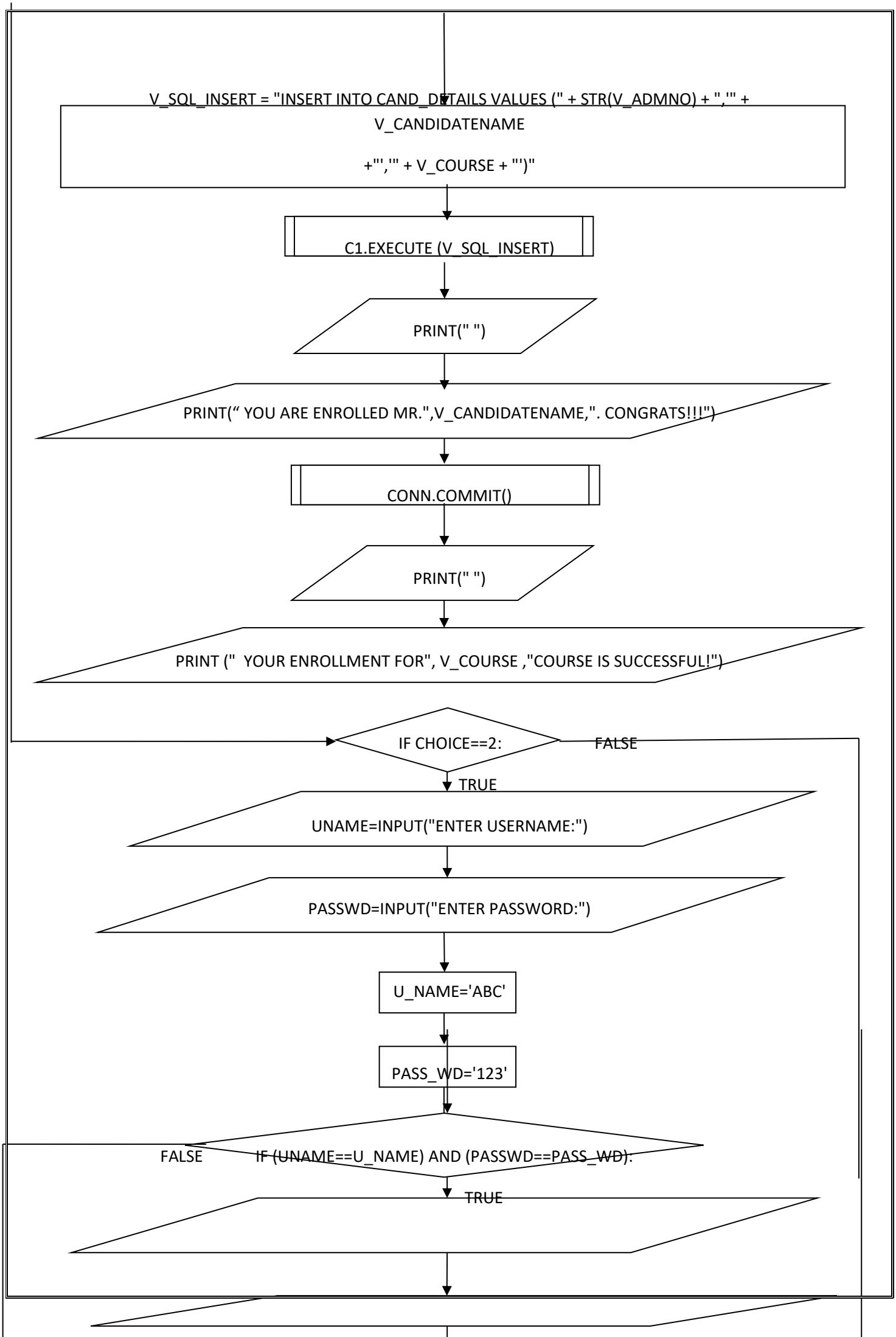
SOFTWARE REQUIREMENTS:

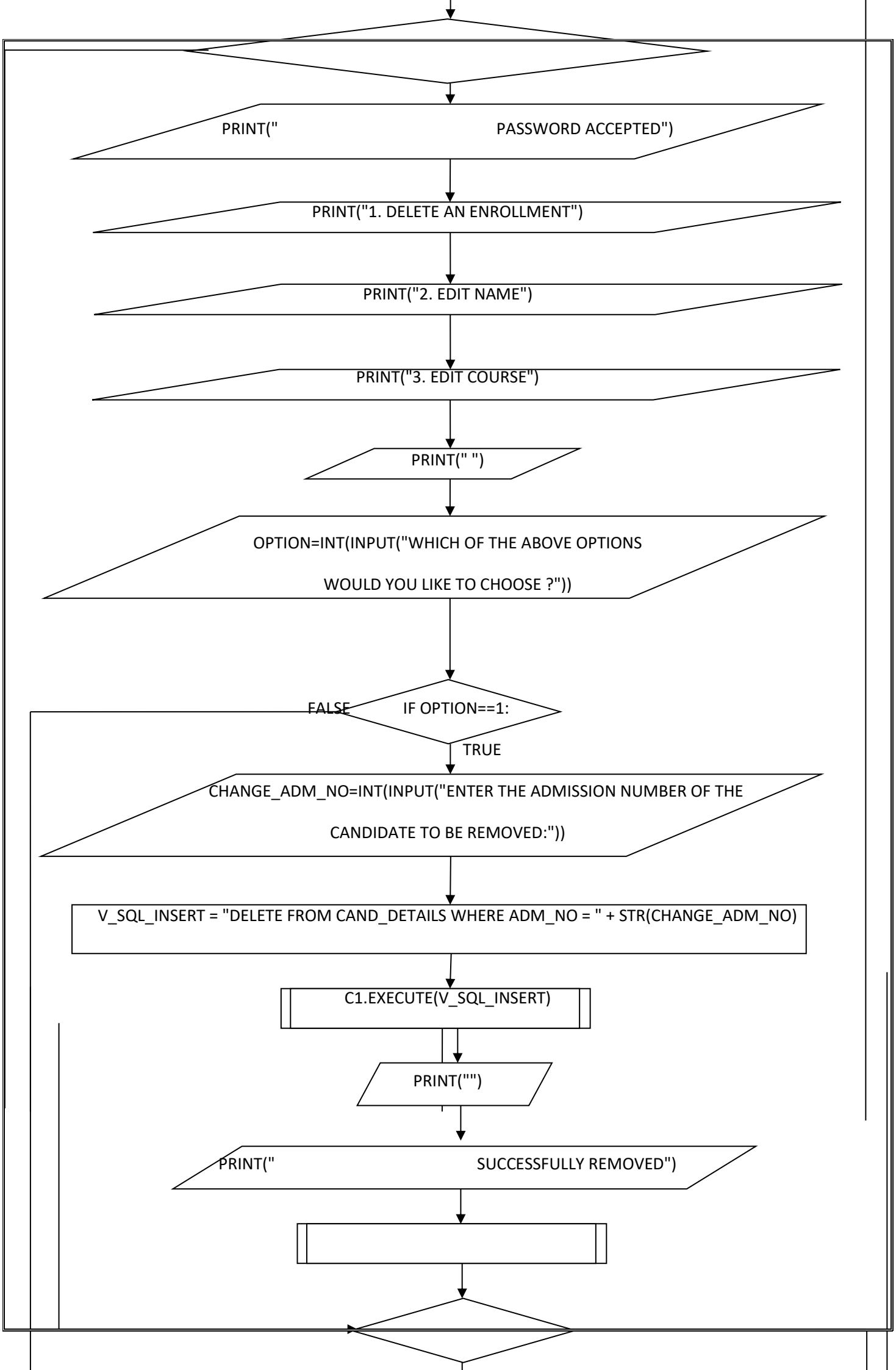
- Windows OS
- Python

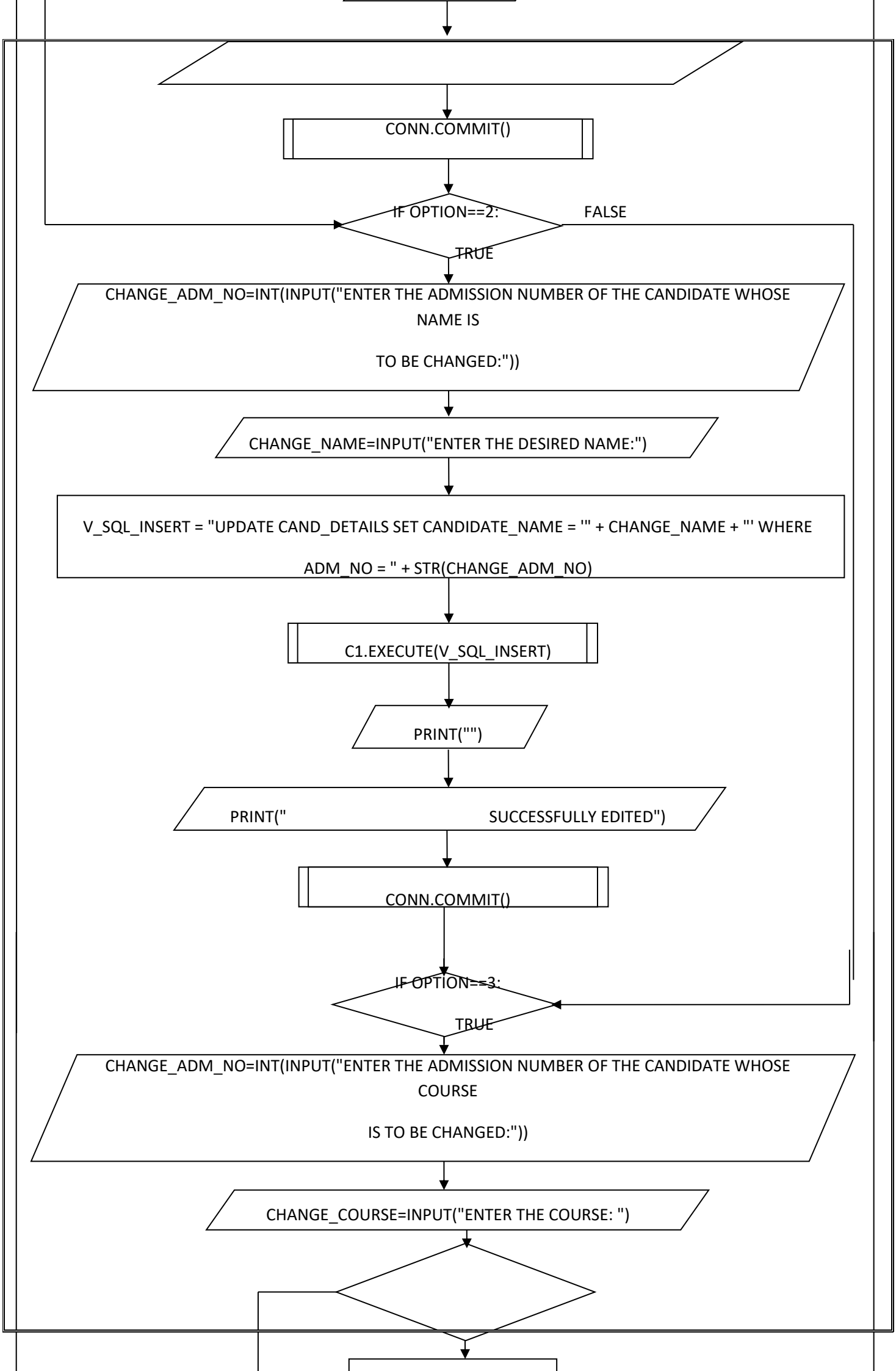
FLOW CHART

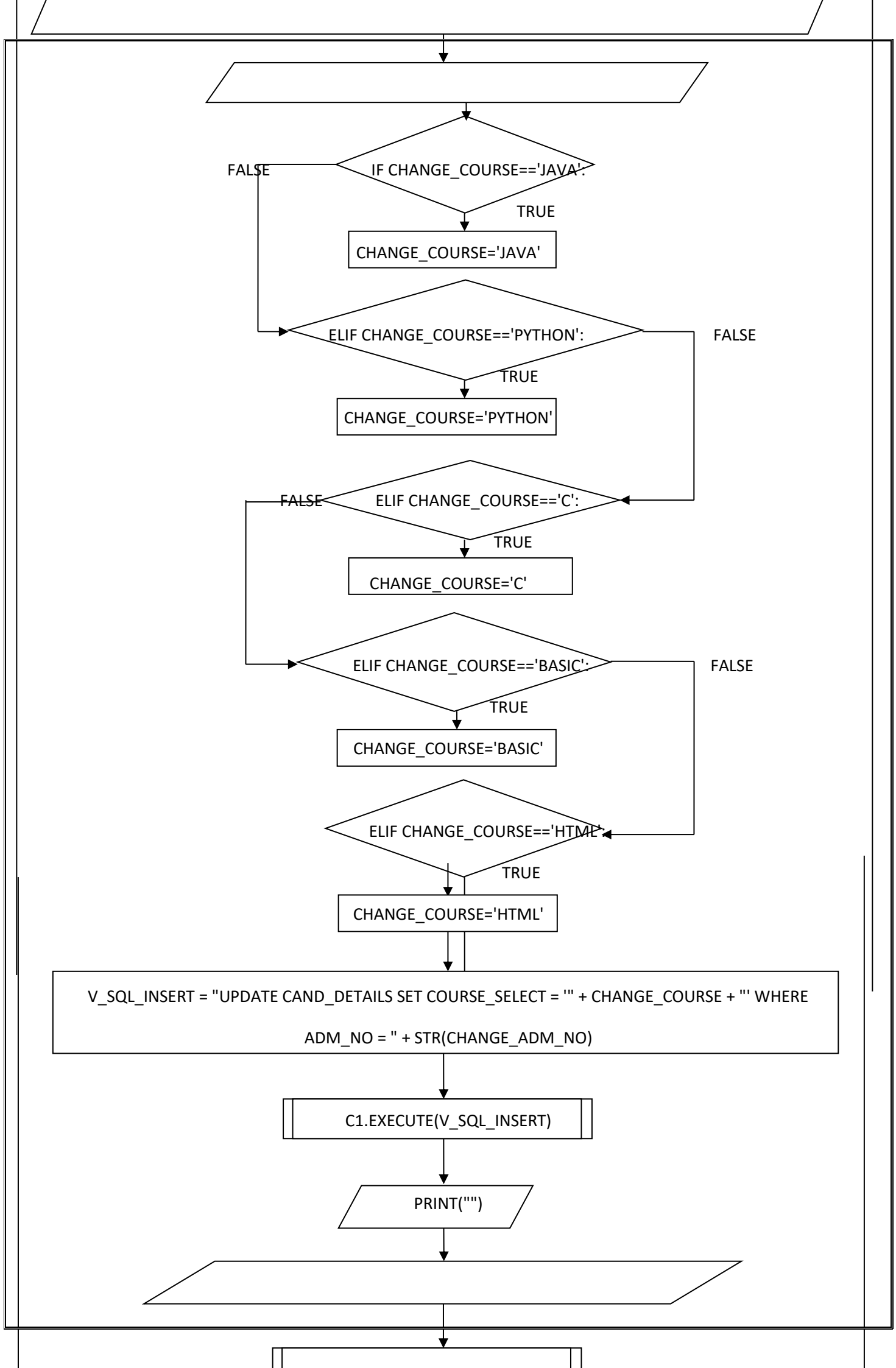

MPORT MYSQL.CONNECTOR AS SQL
CONN=SQL.CONNECT(HOST='LOCALHOST',USER='ROOT',PASSWD='MANAGER',DATABASE='CIMS')
C1=CONN.CURSOR()
PRINT(" SSA COMPUTER INSTITUTE MANAGEMENT SYSTEM")
PRINT(" ")
PRINT("1. ENROLLING FOR A COURSE")
PRINT("2. EDIT ENROLLMENTS (AS ADMIN)")
PRINT("3. DISPLAY DETAILS")
PRINT("4. EXIT")
CHOICE=INT(INPUT("ENTER THE CHOICE - "))
IF CHOICE==1:
FALSE
TRUE
V_ADMNO=INT(INPUT("ENTER THE ADMISSION NUMBER: "))

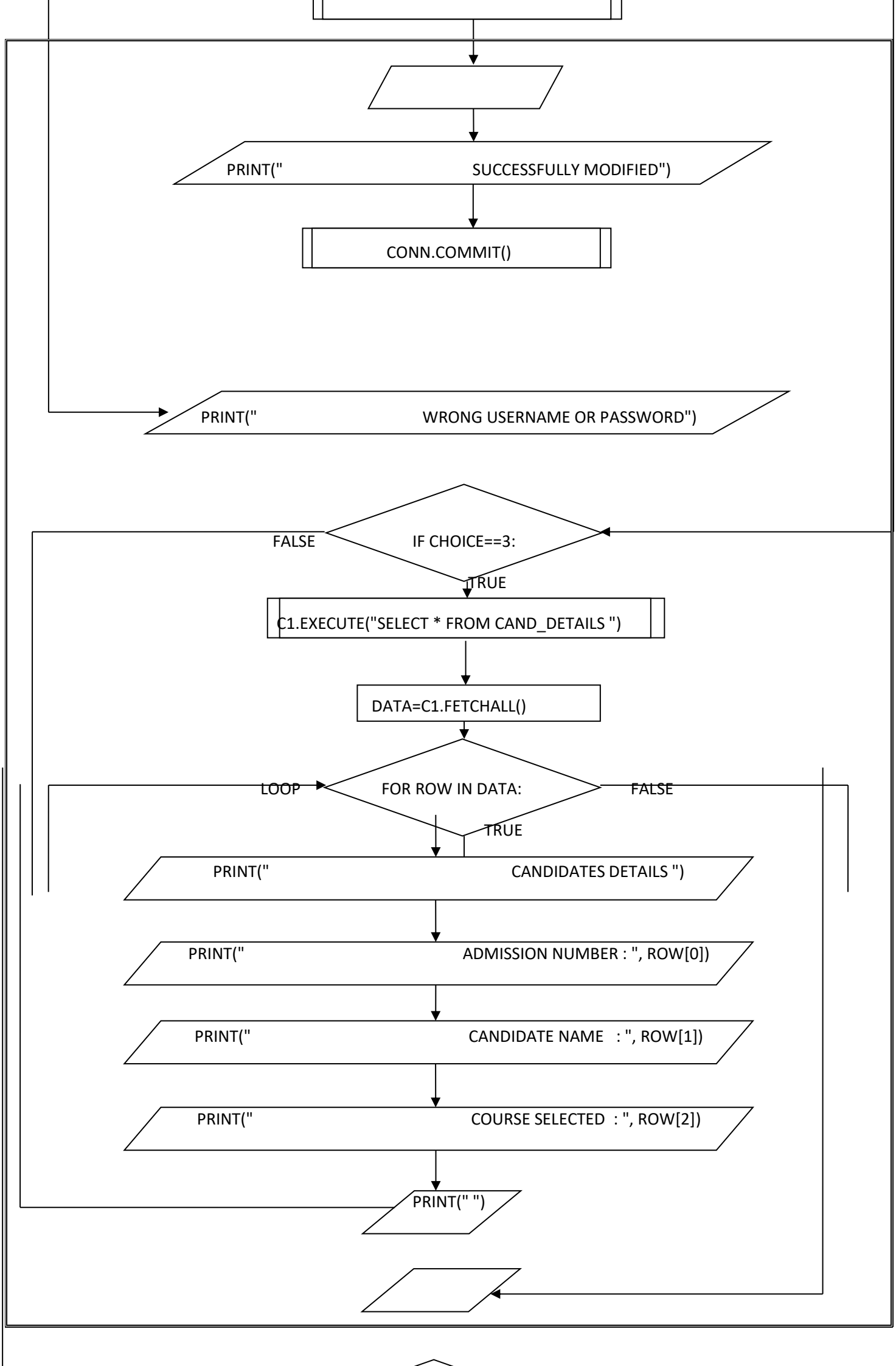

V_CANDIDATENAME=INPUT("ENTER YOUR NAME : ")
V_COURSE=INPUT("ENTER THE COURSE: ")
IF V_COURSE=='JAVA':
FALSE
TRUE
V_COURSE='JAVA'
ELIF V_COURSE=='PYTHON':
FALSE
TRUE
V_COURSE='PYTHON'
ELIF V_COURSE=='C':
FALSE
TRUE
V_COURSE='C'
ELIF V_COURSE=='BASIC':
FALSE
TRUE
V_COURSE='BASIC'
ELIF V_COURSE=='HTML':
TRUE
V_COURSE='HTML'

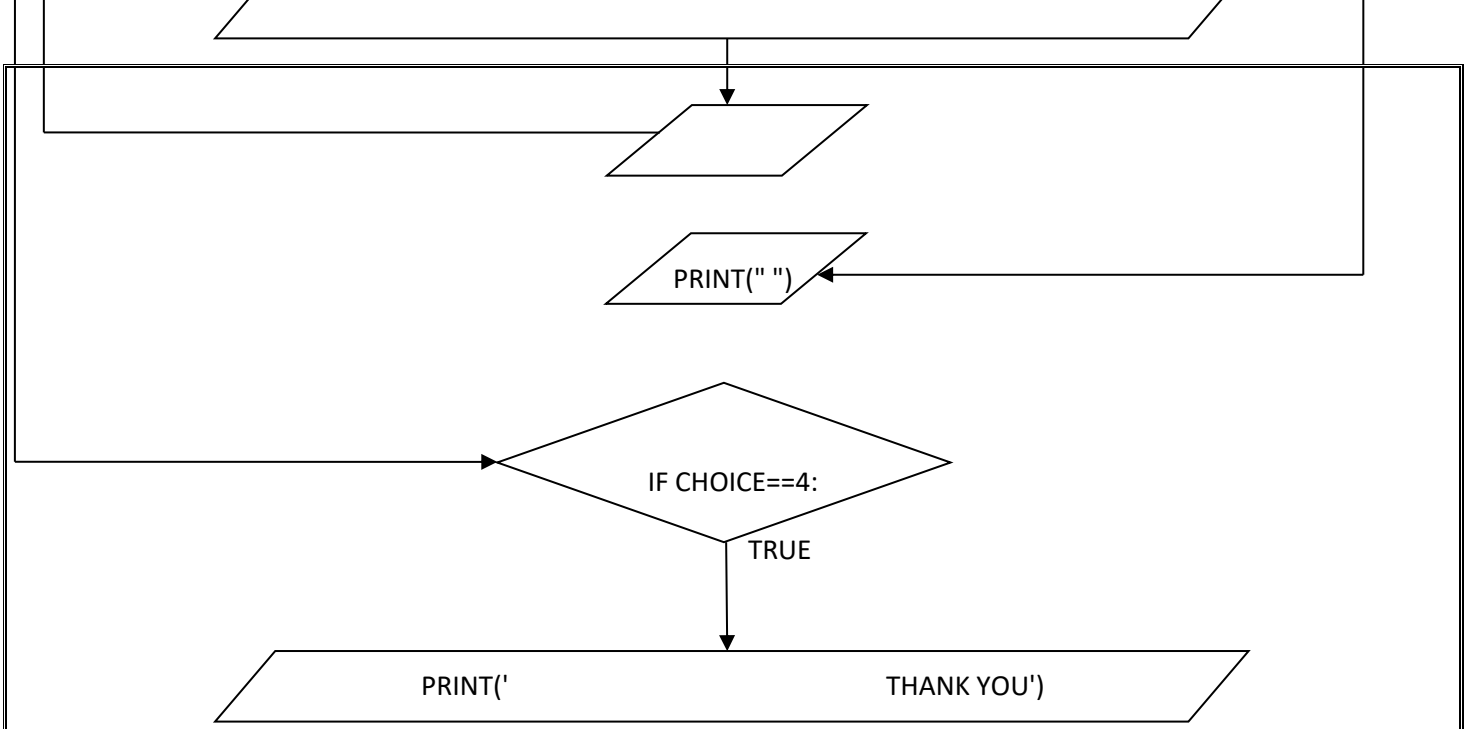

V_SQL_INSERT = "INSERT INTO CAND_DETAILS VALUES (" + STR(V_ADMNO) + ",'" +
V_CANDIDATENAME
+"','" + V_COURSE + "')"
C1.EXECUTE (V_SQL_INSERT)
PRINT(" ")
PRINT(" YOU ARE ENROLLED MR.",V_CANDIDATENAME,". CONGRATS!!!")
CONN.COMMIT()
PRINT(" ")
PRINT (" YOUR ENROLLMENT FOR", V_COURSE ,"COURSE IS SUCCESSFUL!")
IF CHOICE==2:
FALSE
TRUE
UNAME=INPUT("ENTER USERNAME:")
PASSWD=INPUT("ENTER PASSWORD:")
U_NAME='ABC'
PASS_WD='123'
FALSE
IF (UNAME==U_NAME) AND (PASSWD==PASS_WD):
TRUE


PRINT(" PASSWORD ACCEPTED")
PRINT("1. DELETE AN ENROLLMENT")
PRINT("2. EDIT NAME")
PRINT("3. EDIT COURSE")
PRINT(" ")
OPTION=INT(INPUT("WHICH OF THE ABOVE OPTIONS
WOULD YOU LIKE TO CHOOSE ?"))
FALSE
IF OPTION==1:
TRUE
CHANGE_ADM_NO=INT(INPUT("ENTER THE ADMISSION NUMBER OF THE
CANDIDATE TO BE REMOVED:"))
V_SQL_INSERT = "DELETE FROM CAND_DETAILS WHERE ADM_NO = " + STR(CHANGE_ADM_NO)
C1.EXECUTE(V_SQL_INSERT)
PRINT("")
PRINT(" SUCCESSFULLY REMOVED")


CONN.COMMIT()
IF OPTION==2:
FALSE
TRUE
CHANGE_ADM_NO=INT(INPUT("ENTER THE ADMISSION NUMBER OF THE CANDIDATE WHOSE NAME IS
TO BE CHANGED:"))
CHANGE_NAME=INPUT("ENTER THE DESIRED NAME:")
V_SQL_INSERT = "UPDATE CAND_DETAILS SET CANDIDATE_NAME = '" + CHANGE_NAME + "' WHERE
ADM_NO = " + STR(CHANGE_ADM_NO)
C1.EXECUTE(V_SQL_INSERT)
PRINT("")
PRINT(" SUCCESSFULLY EDITED")
CONN.COMMIT()
IF OPTION==3:
TRUE
CHANGE_ADM_NO=INT(INPUT("ENTER THE ADMISSION NUMBER OF THE CANDIDATE WHOSE COURSE
IS TO BE CHANGED:"))
CHANGE_COURSE=INPUT("ENTER THE COURSE: ")


IF CHANGE_COURSE=='JAVA':
FALSE
TRUE
CHANGE_COURSE='JAVA'
ELIF CHANGE_COURSE=='PYTHON':
FALSE
TRUE
CHANGE_COURSE='PYTHON'
ELIF CHANGE_COURSE=='C':
FALSE
TRUE
CHANGE_COURSE='C'
ELIF CHANGE_COURSE=='BASIC':
FALSE
TRUE
CHANGE_COURSE='BASIC'
ELIF CHANGE_COURSE=='HTML':
TRUE
CHANGE_COURSE='HTML'
V_SQL_INSERT = "UPDATE CAND_DETAILS SET COURSE_SELECT = '" + CHANGE_COURSE + "' WHERE ADM_NO = " + STR(CHANGE_ADM_NO)
C1.EXECUTE(V_SQL_INSERT)
PRINT("")


PRINT(" SUCCESSFULLY MODIFIED")
CONN.COMMIT()
PRINT(" WRONG USERNAME OR PASSWORD")
FALSE
IF CHOICE==3:
TRUE
C1.EXECUTE("SELECT * FROM CAND_DETAILS ")
DATA=C1.FETCHALL()
LOOP
FOR ROW IN DATA:
FALSE
TRUE
PRINT(" CANDIDATES DETAILS ")
PRINT(" ADMISSION NUMBER : ", ROW[0])
PRINT(" CANDIDATE NAME : ", ROW[1])
PRINT(" COURSE SELECTED : ", ROW[2])
PRINT(" ")


PRINT(" ")

IF CHOICE==4:
TRUE

PRINT(' THANK YOU')

WORKING ENVIRONMENT

PYTHON

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built-in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

MySQL

MySQL is a relational database management system based on **SQL** – **S**tructured **Q**uery **L**anguage. The application is used for a wide range of purposes, including data warehousing, e-commerce, and logging applications. The most common use for MySQL however, is for the purpose of a web database. It can be used to store anything from a single record of information to an entire inventory of available products for an online store. In association with a scripting language such as **PHP** or **Perl** (both offered on our hosting accounts) it is possible to create websites which will interact in real-time with a MySQL database to rapidly display categorised and searchable information to a website user.

SYSTEM DESIGN

MySQL 5.5 Command Line Client

```
Enter password: ********
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 21
Server version: 5.5.60 MySQL Community Server (GPL)

Copyright (c) 2000, 2018, Oracle and/or its affiliates. All rights reserved.

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use cims;
Database changed
mysql> desc cand_details;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| adm_no         | int(11)     | NO   | PRI | NULL    |       |
| candidate_name | varchar(50) | YES  |     | NULL    |       |
| course_select  | varchar(20) | YES  |     | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
3 rows in set (0.11 sec)

mysql> select * from cand_details;
+--------+----------------+---------------+
| adm_no | candidate_name | course_select |
+--------+----------------+---------------+
|    101 | Chandan        | BASIC         |
|    102 | Akansha        | JAVA          |
|    103 | AK Gupta       | PYTHON        |
+--------+----------------+---------------+
```

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit (AMD64)] on win3
2
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/Hp/Desktop/prjt.py ==========
                    SSA Computer Institute Management System

1. Enrolling For A Course
2. Edit Enrollments (as admin)
3. Display Details
4. Exit
Enter the Choice - 1
Enter the Admission Number: 106
Enter your name : Chandan kumar
Enter the Course: PYTHON

                        You are Enrolled Mr. Chandan kumar . Congrats!!!

                    Your enrollment for PYTHON course is successful!
>>>
```

FUNCTIONS USED

The various functions that I have put to put to our use in making the project are as follows:

1) CONNECT() : This function establishes connection between Python and MySQL.
2) COMMIT() : This function provides changes in the function physically.
3) FETCHALL() : This function will return all the rows from the result set in the form of a tuple containing the records.
4) EXECUTE() : This function is use to execute the SQL query and retrieve records using Python.
5) CURSOR() : It is a special control structure that facilitates the row-by-row processing of records in the result set.

LIBRARIES USED

1) MySQL.Connector

TABLE USED

cand_details			
Field Name	Data Type	Size	Constrain
adm_no	int	11	Primary Key
candidate_name	varchar	50	-
course_select	varchar	20	-

TESTING

Software Testing is an empirical investigation conducted to provide stakeholders with information about the quality of the product or service under test[1] , with respect to the context in which it is intended to operate. Software Testing also provides an objective, independent view of the software to allow the business to appreciate and understand the risks at implementation of the software. Test techniques include, but are not limited to, the process of executing a program or application with the intent of finding software bugs.

It can also be stated as the process of validating and verifying that a software program/application/product meets the business and technical requirements that guided its design and development, so that it works as expected and can be implemented with the same characteristics. Software Testing, depending on the testing method employed, can be implemented at any time in the development process, however the most test effort is employed after the requirements have been defined and coding process has been completed.

TESTING METHODS

Software testing methods are traditionally divided into black box testing and white box testing. These two approaches are used to describe the point of view that a test engineer takes when designing test cases.

BLACK BOX TESTING

Black box testing treats the software as a "black box," without any knowledge of internal implementation. Black box testing methods include: equivalence partitioning, boundary value analysis, all-pairs testing, fuzz testing, model-based testing, traceability matrix, exploratory testing and specification-based testing.

SPECIFICATION-BASED TESTING

Specification-based testing aims to test the functionality of software according to the applicable requirements. Thus, the tester inputs data into, and only sees the output from, the test object. This level of testing usually requires thorough test cases to be provided to the tester, who then can simply verify that for a given input, the output value (or behavior), either "is" or "is not" the same as the expected value specified in the test case. Specification-based testing is necessary, but it is insufficient to guard against certain risks

ADVANTAGES AND DISADVANTAGES

The black box tester has no "bonds" with the code, and a tester's perception is very simple: a code must have bugs. Using the principle, "Ask and you shall receive," black box testers find bugs where programmers don't. But, on the other hand, black box testing has been said to be "like a walk in a dark labyrinth without a flashlight," because the tester doesn't know how the software being tested was actually constructed.

That's why there are situations when (1) a black box tester writes many test cases to check something that can be tested by only one test case, and/or (2) some parts of the back end are not tested at all. Therefore, black box testing has the advantage of "an unaffiliated opinion," on the one hand, and the disadvantage of "blind exploring," on the other.

WHITE BOX TESTING

White box testing, by contrast to black box testing, is when the tester has access to the internal data structures and algorithms (and the code that implement these)

Types of white box testing:-

The following types of white box testing exist:

- Api testing - Testing of the application using Public and Private APIs.

- Code coverage - creating tests to satisfy some criteria of code coverage.

For example, the test designer can create tests to cause all statements in the program to be executed at least once.

- fault injection methods.
- mutation testing methods.
- static testing - White box testing includes all static testing.

CODE COMPLETENESS EVALUATION

White box testing methods can also be used to evaluate the completeness of a test suite that was created with black box testing methods. This allows the software team to examine parts of a system that are rarely tested and ensures that the most important function points have been tested.

Two common forms of code coverage are:

- Function Coverage: Which reports on functions executed and
- Statement Coverage: Which reports on the number of lines executed to complete the test.

They both return coverage metric, measured as a percentage

INSTALLATION PROCESS

1. Install “python-3.4.0” in your device (if you do not have Python).
2. Install “My SQL” in your device (if you do not have My SQL).
3. Run the file “cims_create_database.py” in your PC to create a database
4. Run the file “cims_create_table” in your PC to create a table.
5. Run the file “cims_menu.py” in your PC to work on our management system.
6. For further more details on how to use our software, please read “Project - Class 11 - Computer Institute Management System Project”.

CONCLUSION

This website will provide students a breadth of knowledge in computer science and thus, apply object-oriented programming for developing small to medium sized projects thus saving time.

We accomplished this by compiling a list of common pythons, MySQL, etc.

The work will become fully automatic and any information regarding the organization can be obtained by clicking a button.

It will help to keep pace with time and will bring greater efficiency so to replace unending heaps of files with much sophisticated hard disc of the computer.

We believe that our project will prove to be very useful tool for future introductory computer science students.

BIBLIOGRAPHY

- ***Computer science With Python - Class XI By : Sumita Arora***
- ***Computer science With Python - Class XII By : Sumita Arora***
- ***Website: https://www.w3resource.com***
  https://en.wikipedia.org/