

# **CERTIFICATE**

This is to certify that the project entitled "*Learning Python*"  
is a record of work done by *Amanvir Singh* and *Bhav Beri*  
Class XII 'Non-Medical' in partial fulfilment of the requirements  
for the *CBSE Computer Applications* under the prestigious school  
**"Swami Sant Dass Public School, Phagwara"** in the session 2020-21.

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# **WHAT IS PYTHON?**

The World-wide Second Ranked 'Non - Java Based' language, ranked by 'RedMonk Programming Language Rankings' in June, 2020 (<https://redmonk.com/sogady/2020/07/27/language-rankings-6-20/>), is one of the best high-level languages developed till now.

Python's design philosophy emphasizes code readability with its notable use of significant whitespace.

Its language constructs and object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects.

It is used extensively all over the world.

Moreover, it has even inspired the creation of many other programming languages also, like swift, ruby, cobra, Go, and many others.

It is a high-level, interpreted, interactive and object-oriented scripting language. It uses English keywords frequently where as other languages use punctuation, and it has fewer syntactical constructions than other languages.

Python was created in the late 1980s, and first released in 1991, by Guido van Rossum as a successor to the ABC programming language. Python 2.0, released in 2000, introduced new features, such as list comprehensions. Python 3.0, released in 2008, was a major revision of the language that is not completely backward compatible and much Python 2.0 code does not run unmodified on Python 3.0.

Latest Version of Python can be downloaded from [www.python.org](http://www.python.org) .

# **OBJECTIVE OF THE PROJECT**

The main objective of the project is to help a user to get basic knowledge about python language within python, interactively.

The user has to read the module at every level and have to pass a quiz related to the module he has read. He has to obtain a certain percentage in the quiz to move to the next level. After all the levels, the user has to pass the final quiz which contains questions based on all the modules.

## **Features of the Project:**

- Open-Source Software with the links to code (Git-Hub) and online interpreter (Repl.it) provided in the software itself (But for logged in users).
- Software completely made in 'Python' only.
- Special Welcome and Thanking Pages.
- Sign up and Sign in options, which helps to store and track users' progress, which can also be reset after completing the course.
- Multiple users can complete their courses without affecting the progress of other users.
- The program has a captcha (Random Mixed Character Strings of Variable Length), hidden password entry (if supported by the system of execution) and other security measures to prevent unauthorized usage of the content.
- Special Security measures also provided to prevent usage of login and quiz modules directly, and only through main module, though they can be accessed using the admins username and password.
- Signup option checking the duplicity of username, Email Addresses, and Mobile numbers along with checking for the

format of Mobile Number and Email Address provided by the new user.

- Option to update password also available.
- Option to choose the 'full course package' or 'quizzes only package' at the time of signup, which makes it suitable to use for different types of people.
- Special admin login, to allow admins to check all the information provided by users, test any quiz, module, etc., to ensure the absence of any bugs, or irrelevant outputs.
- Special Algorithm made for the quizzes, so that only the quiz question-bank files needed to be updated and the software will automatically reflect the changes, with the software randomly choosing a specified percent of the questions only, without any repetition while displaying the questions to user/s.
- Easy addition of more levels for the users, on the developer side due to this special algorithm.
- Different Passing Criterion for various level of quizzes.
- No Personal Information of the User shared with any Third-Party Application.

# **ALGORITHM**

- ✓ Program is given Execution Command.
- ✓ A Special Welcome Screen Comes with the name of The Software, Developers.
- ✓ Login/Signup options appear, a separate Login Option also available for the Admin.
- ✓ Signup
  - User is asked for a username for his account in the software, username must be atleast 3 letters long, and must not be taken by some other user previously.
  - User is asked for some of his personal details, which will only be used for identification of different users and prevent any wrong person to use the application.
  - Firstly, User's Full Name is checked.
  - Email is asked and it's authenticity (of format) is checked.
  - User is asked for Phone Number which must be linked to any other user previously and must be of correct format (10 digits).
  - User is asked for his city, which is just to study the number of users from different places.
  - User is asked for a password for his account, which must be having atleast 6 characters in it, and feature of secured entry of the password is also incorporated (subject to affordability by the



System). Then User is asked to confirm the password.

- User is then asked to choose a package – Full package, including Modules and Quizzes OR Quizzes only package.
- To check the authenticity of the signing up user, Captcha Code Feature is also implemented in the program, with a limited no. of attempts (~3) allowed due to security features.

➤ Log\_IN

- ✓ User is asked for his unique username and password (Secured Entry).
- ✓ User is given option for continuing to the completion of the level, Updating the Password, or Link to the Source Code of the Program.
- ✓ If user has taken complete package, he/she is shown firstly the module content to read, and then a quiz to complete that level, if he/she passes in the quiz. If user has taken Quizzes only package, then he/she is directly taken to the quiz.
- ✓ In the Quiz, User is shown a specified number of questions from the already given question-bank of the program.
- ✓ User has to choose from the four Options given (a,b,c,d) and enter his/her choice, which will then be checked the software from the answer

key and then user will be given marks accordingly.

- ✓ User has to get a minimum of specific percentage to pass that level.
- ✓ If User passes, his/her level would be increased in the database, and he'll be taken to the next level.
- ✓ User has the option to Exit also, with his progress saved securely in the data file. Though, user can't leave the program in between while attempting the quiz or reading the module, with exception of forcefully closing the software, where his new progress will not be saved.

# **SOURCE CODE**

## **main.py (Python Module 1)**

```
import csv
import time
import os
import webbrowser
import warnings
from getpass import getpass

warnings.simplefilter("error", category=Warning)

#Importing the other user-defined modules
import login
import quiz_main

def read(level='level -1'): #Function to display the module of the
    particular level
    with open(level+'.txt','r') as ob:
        print(ob.read())
    if level=='level -1': #For final level
        time.sleep(1)
        quiz_only(level)
        return
    time.sleep(6) #Time given for reading the text
    input("Press any key to continue to the quiz -> ")
    quiz_only(level) #Proceeding for conducting the quiz

def quiz_only(level):
    passpercent=65
    if level=='level -1':
        passpercent=80 #More Pass Percentage for the final quiz
    quiz_main.main(level[6:],passpercent)
    if quiz_main._pass:
        print("\n\t~~~ Passed !! ~~~")
        if level!='level -1':
            print("You have passed",level)
            level_increase() #After passing the quiz, increasing the level
of the user
        print()
    else:
        print("\n\tFail!! \n\t~~Please Try Again~~")
        menu()
```

```

def exit(): #Exit function
    print("\nThanks for using this software.\n\tBy Bhav and Amanvir")
    time.sleep(1.7)
    print("\t\t ^ ^ ")
    print("\t\t ! ` ` !")
    print("\t\t ' ")
    print("\t\t <-> ")
    print()
    print("You can download the files from the
link\nhttps://github.com/bhavberi/LearningPython\n\tOr\nhttps://repl
.it/@bhavberi/LearningPython")
    time.sleep(2.8)
    os._exit(1) #For closing the program forcefully.

def show_all_logindetails(): #For admin to see the details of all the
users enrolled till now.
    obr=open('Login Details.csv','r')
    read=csv.reader(obr)
    print('Serial\tUsername\t Next Level\t Package Type\t Password')
    print('~~Name \t\tPhone Number\tEmail \t\tCity')
    count=0
    for i in read:
        count+=1
        print()
        print(' ',count,'\t',i[0],'\t',i[2],'\t',i[3],'\t',i[1])
        print('~~',i[4],'\t',i[6],'\t\t',i[5],'\t',i[7])
    menu()

def web():
    print()
    print("For Github link(For the Source Code), press 1")
    print("For repl.it link(For online interpreter), press 2")
    ch=int(input('-> '))
    print()
    if ch==1:
        print('https://github.com/bhavberi/LearningPython')
        print('\nThis is the Github link, either copy it and then
paste in your browser,\nOr enter 9 to open the link directly in your
browser.\nPress any other key to go back to menu.')
        ch1=input('-> ')
        if ch1=='9':
            webbrowser.open_new('https://github.com/bhavberi/LearningPython')
            time.sleep(3.1)
            input('To continue back, press enter key.')
            menu()
            return

```

```

        else:
            menu()
            return
    elif ch==2:
        print('https://repl.it/@bhavberi/LearningPython')
        print('\nThis is the Repl link, either copy it and then paste
in your browser,\nOr enter 9 to open the link directly in your
browser.\nPress any other key to go back to menu.')
        ch1=input('-> ')
        if ch1=='9':

webbrowser.open_new('https://repl.it/@bhavberi/LearningPython')
        time.sleep(3.1)
        input('To continue back, press enter key.')
        menu()
        return
    else:
        menu()
        return
else:
    print("Wrong Entry.")
    menu()
    return

def level_increase():
    global username,user_details

fields=['username','password','level','package','name','email','phon
e','city']

    obw=open('Login_Details.csv','w',newline='') #Another file to
which details will be first written and then this file will be renamed.
    data=csv.DictWriter(obw,fieldnames=fields)

    obr=open('Login_Details.csv','r')
    read=csv.reader(obr)

    for i in read:
        d=dict() #Dictionary with the details of users with modified
level also
        if i[0].lower()==username:
            level=i[2]
            if level=='Over':
                level='level 1'
            elif level=='level -1':
                level='Over'
            elif level=='level 2':#Last level
                level='level -1'

```

```

        else:
            level='level '+str(int(level[6:])+1)

            d['username']=i[0]
            d['password']=i[1]
            d['level']=level
            d['package']=i[3]
            d['name']=i[4]
            d['email']=i[5]
            d['phone']=i[6]
            d['city']=i[7]

            data.writerow(d)

    else:
        d['username']=i[0]
        d['password']=i[1]
        d['level']=i[2]
        d['package']=i[3]
        d['name']=i[4]
        d['email']=i[5]
        d['phone']=i[6]
        d['city']=i[7]

        data.writerow(d)
obw.close()
obr.close()
os.remove('Login_Details.csv')
os.rename('Login_Details.csv','Login_Details.csv')
with open('Login_Details.csv','r') as ob:
    data=csv.reader(ob)
    for i in data:
        if i[0].lower()==username:
            user_details=i #Updating the user details which the
program is using.
            menu()

def update_password():
    global username,user_details

fields=['username','password','level','package','name','email','phone',
'city']

    obw=open('Login_Details.csv','w',newline='') #Another file to
which details will be first written and then this file will be renamed.
    data=csv.DictWriter(obw,fieldnames=fields)

    obr=open('Login_Details.csv','r')

```

```

read=csv.reader(obr)

for i in read:
    d=dict() #Dictionary with the details of users with modified
level also
    if i[0].lower()==username:

        while True:
            try:
                password=getpass("Enter password(min. 6 digits
long) (Secured entry) -> ")
            except:
                password=input("Enter password(min. 6 digits long)
-> ")

            if len(password)<6:
                print("\nPassword must be atleast 6 letters
long")

                continue
            print('\nEntered Password -> ',end='')
            print('*'*len(password))
            try:
                cpass=getpass("Confirm your password (Secured
entry) -> ")
            except:
                cpass=input("Confirm your password -> ")
            if cpass==password:
                print('Password changed sucessfully')
                break
            print("\nOriginal and Confirmatory Password's doesn't
match\nPlease enter again.")
            ch=input('To try again, press 1\nElse press enter
key')

            if ch!='1':
                menu()
                return

            d['username']=i[0]
            d['password']=password+'#ab'
            d['level']=i[2]
            d['package']=i[3]
            d['name']=i[4]
            d['email']=i[5]
            d['phone']=i[6]
            d['city']=i[7]

            data.writerow(d)

        else:

```

```

        d['username']=i[0]
        d['password']=i[1]
        d['level']=i[2]
        d['package']=i[3]
        d['name']=i[4]
        d['email']=i[5]
        d['phone']=i[6]
        d['city']=i[7]

        data.writerow(d)
    obw.close()
    obr.close()
    os.remove('Login Details.csv')
    os.rename('Login_Details.csv','Login Details.csv')
    with open('Login Details.csv','r') as ob:
        data=csv.reader(ob)
        for i in data:
            if i[0].lower()==username:
                user_details=i #Updating the user details which the
program is using.
        menu()

def menu(): #Main menu function from where all other functions are
called.

    print()
    if user_details[2]=='Over':
        print("You have completed your course.\n\nTo restart the
course enter 1 or 0\nElse press Enter key")
        print("To update your password, press 2\nElse press Enter
key")
        i=input("-> ")
        if i=='0' or i=='1':
            level_increase()
        elif i=='2':
            update_password()
            menu()
        else:
            exit()
    if user_details=='admin':
        print("To Continue to the module and then quiz, press 1")
        print("To continue to the quiz, press 9")
        print("To see the login details of all the users till now,
press 5")
        elif user_details[3]=='Complete':
            print("To Continue to the module and then quiz, press 1")
            print("To update your password, press 2")
        else:

```



```

        print("To continue to the quiz, press 9")
        print("To update your password, press 2")
    print("For Source File/Online Interpreter of this program, press
0")
    print("Else press any other key to exit")
    ch=input("-> ") #Input of the choice of the user

    if ch.isdigit():
        choice=int(ch)
    else:
        choice=-1

    if choice==-1:
        exit()
    elif choice==0:
        web()
    elif choice==2:
        if user_details!='admin':
            update_password()
        else:
            exit()
    elif choice==1:
        if user_details=='admin':
            level_ask='level '+input("Enter number of level to
see(For final, enter -1) : ")
            read(level_ask)
        else:
            if user_details[3]=="Quiz":
                exit()
            read(user_details[2])
    elif choice==9:
        if user_details=='admin':
            level_ask='level '+input("Enter number of level to
see(For final, enter -1) : ")
            quiz_only(level_ask)
        else:
            if user_details[3]=='Complete':
                exit()
            if user_details[2]=='level -1':
                read(user_details[2])
            else:
                quiz_only(user_details[2])
    elif choice==5:
        if user_details=='admin':
            show_all_logindetails()
        else:
            exit()
    else:

```

```

        exit()

def welcome():
    print()
    time.sleep(0.5)
    print('\t\tA')
    time.sleep(1.5)
    print('\t\t\t&')
    time.sleep(1.5)
    print('\t\t\t\tB')
    time.sleep(1.5)
    print('\t\tSoftwares')
    time.sleep(0.7)
    print()
    q=0
    while q<29:
        print('-~',end='')
        q+=1
    time.sleep(1.5)
    print('\n')
    time.sleep(1.5)
    print("This software is developed by 'Bhav Beri' & 'Amanvir Singh'\n")
    time.sleep(0.9)
    q=0
    while q<29:
        print('-~',end='')
        q+=1
    time.sleep(1.5)
    print('\n')
    time.sleep(1.5)

#Start of the execution of the main file
welcome()

#Calling login module and checking the initials of the user
login.login()
username=login.username()
user_details=''
if username=='adminab' or username=='computer':#For admin
    user_details='admin'
with open('Login Details.csv','r') as ob:
    data=csv.reader(ob)
    for i in data:
        if i[0].lower()==username:
            user_details=i

```

```
#After logining in of the user, start of the main module for the  
quizzes and the learning part.  
menu()
```

## login.py (Python Module 2)

```
#Admin usernames ('adminab','qwerty') or ('computer','010101')
import csv
import os
import random
import time
from getpass import getpass
import warnings

warnings.simplefilter("error", category=Warning)

def private():
    s=''
    letters='qwertyuioplkjhgfdsazxcvbnm'
    letters+=letters.upper()
    letters+='234567890'
    letters+="!@#$%&*?/"
    for i in range(8):
        s+=random.choice(letters)
    return 'AB '+s
passcode,correct = 0,private()
user = ''

def login(): #For Calling
    global passcode,correct
    if __name__ == '__main__': #Checking whether program called
        directly or by any other module
        a=admin()
        if a==True:
            passcode=correct
            return main()
    else:
        passcode=correct
        return main()
    os.system('cls')

count=0
def main(): #Main method of login.py
    global passcode,correct
    if passcode!=correct:
        print("Fake")
        os._exit(1)
        return False
    global count
    print("\nIf you want to login as student, enter 1")
    print("If you want to signup as student, enter 2")
```

```

print("If you want to login as admin, enter 3")
print("To exit, enter 0")
ch=input("-> ")
if ch=='':
    choice=-1
else :
    choice=int(ch)
if choice==1:
    choice=0
    if signin()==True:
        return True
    else:
        return False
elif choice==2:
    choice=0
    signup()
    return main()
elif choice==3:
    choice=0
    if admin()==True:
        return True
    else:
        return False
elif choice==0:
    choice=0
    print("\nThanks for using this software.\n\tBy Bhav and
Amanvir")
    time.sleep(1.7)
    print("\t\t ^ ^ ")
    print("\t\t ! ` ` !")
    print("\t\t ' ")
    print("\t\t <-> ")
    print()
    print("You can run/download the project from the link
\nhttps://github.com/bhavberi/LearningPython\n
\tOr\nhttps://repl.it/@bhavberi/LearningPython")
    time.sleep(2.8)
    os._exit(1)
else:
    count+=1
    if count>3:
        print("\nWrong inputs more than 3 times")
        print("Program Terminating")
        time.sleep(2.5)
        os._exit(1)
    else:
        print("Please select correct option")
        main()

```

```

def signup() :
    d=dict()
    ob=open('Login Details.csv','a+',newline='')

    print('\n',end='')

    while True:
        print("Enter the username which you want to take(Atleast 3
letters long)\n(Condition to availability)")
        username=input("-> ")
        if len(username)<3:
            print("\n")
            continue
        if username_checker(username):
            break
        else:
            print("\nUsername not available\nPlease select any other
username")

    while True:
        name=input("\nEnter your full name -> ")
        if len(name)<1:
            print("\n")
            continue
        else:
            break

    while True:
        email=input("Enter your full email (in form of abc@xyz.pqr) -
> ")
        if len(email)<5:
            print("\n")
            continue
        if email_checker(email):
            break
        else:
            print("Please try again")

    while True:
        phone=input("Enter your phone number(10 digits) -> ")
        if phone_checker(phone):
            break

    while True:
        city=input("\nEnter your city name -> ")
        if len(city)<1:
            print("\n")

```

```

        continue
    else:
        break

while True:
    try:
        password=getpass("Enter password(min. 6 digits long)
(Secured entry) -> ")
    except:
        password=input("Enter password(min. 6 digits long) -> ")
        if len(password)<6:
            print("\nPassword must be atleast 6 letters long")
            continue
        print('\nEntered Password -> ',end='')
        print('*'*len(password))
    try:
        cpass=getpass("Confirm you password (Secured entry) -> ")
    except:
        cpass=input("Confirm you password -> ")
        if cpass==password:
            break
        print("\nOriginal and Confirmatory Password's doesn't
match\nPlease enter again.")

    level='level 1'

while True:
    print("\nEnter 1 for quizzes only package\nEnter 2 for
complete package")
    p=(input("-> "))
    if len(p)==1 and p.isdigit():
        p=int(p)
        break

    if p == 1:
        package="Quiz"
    elif p==2:
        package='Complete'
    else:
        package='Complete'
        print("Wrong Input\nYour package has been set to Complete")

cap_count=0
while True:
    cap=captcha(random.randint(5,8))
    cap_count+=1
    print("Please enter this captcha (Case Sensitive) \nfor
verification that user is not robot")

```

```

print(cap)
cap1=input('-> ')
if cap1==cap:
    break
print("\nWrong Captcha Entered")
if cap_count==3:
    print("\nCaptcha validation failed")
    print("Program Terminating")
    time.sleep(2.5)
    os._exit(1)
print("You have only",3-cap_count,'chances left')

d['username']=username
d['password']=password+'#ab'
d['level']=level
d['package']=package
d['name']=name
d['email']=email
d['phone']=phone
d['city']=city

fields=['username','password','level','package','name','email','phone','city']
data=csv.DictWriter(ob,fieldnames=fields)
data.writerow(d)
ob.close()

def username_checker(username):
    with open('Login Details.csv','r') as ob:
        data=csv.reader(ob)
        if username=='adminab' or username=='computer' or username=='admin':
            return False
        for i in data:
            if i[0]==username:
                return False
        return True

def email_checker(email):
    email.strip()
    with open('Login Details.csv','r') as ob:
        data=csv.reader(ob)
        for i in data:
            if i[5]==email:
                print("\nEmail already exists")
                return False
    for i in range(len(email)):

```



```

        if email[i]=='@':
            a=email[i+1:]
            for j in range(len(a)):
                if a[j]=='.':
                    b=a[j+1:]
                    if b!='':
                        return True
            else:
                break
    print("\nPlease check your email")
    return False

def phone_checker(phone):
    if len(phone)<10 or len(phone)>10:
        print("\nEnter complete phone number of 10 digits\nPlease try again")
        return False
    if not phone.isdigit():
        print("\nPlease enter correct phone number")
        return False
    with open('Login Details.csv','r') as ob:
        data=csv.reader(ob)
        for i in data:
            if i[6]==phone:
                print("\nPhone Number already exists\nPlease try Again")
                return False
    return True

def captcha(l):
    s=''
    letters='qwertyuiplkjhgfdaszxcvbnm'
    letters+=letters.upper()
    letters+='123456789'
    letters+="!@%$^&*?/'"
    for i in range(l):
        s+=random.choice(letters)
    return 'AB '+s

def admin(): #For login of Admin
    global count,user
    count+=1
    if count>4:
        print("Entered wrong information more than 3 times !!!")
        time.sleep(2.5)
        os._exit(1)
    username=input("Enter username to login with (as admin) -> ")
    username.lower()

```

```

    if username!='adminab' and username!='computer':
        print("Wrong Username")
        admin()
    try:
        password = getpass("Enter password for username "+username+"
(Seured entry) -> ")
    except:
        password = input("Enter password for username "+username+" ->
")
    print('\n',end='')
    cap_count=0
    while True:
        cap=captcha(random.randint(6,8))
        cap_count+=1
        print("\nPlease enter this captcha (Case Sensitive) \nFor
verification that user is not robot")
        print(cap)
        cap1=input('-> ')
        if cap1==cap:
            break
        print("\nWrong Captcha Entered")
        if cap_count==3:
            print("\nCaptcha validation failed")
            print("Program Terminating")
            time.sleep(2.5)
            os._exit(1)
        print("You have only",3-cap_count,'chances left')
    if username=='adminab' and password=='qwerty':
        print("Admin Logged In")
        time.sleep(2.5)
        user=username
        return True
        #os._exit(1)
    elif username=='computer' and password=='010101':
        print("Admin Logged In")
        time.sleep(2.5)
        user=username
        return True
    else:
        print("\nWrong Password ")
        admin()

def signin(): #For login of student
    global count
    count+=1
    if count>4:
        print("Entered wrong information more than 3 times !!!")
        print("Program Terminating")

```

```

        time.sleep(2.5)
        os._exit(1)
    username=(input("Enter the username of the student -> ")).lower()
    try:
        password = getpass("Enter password (Secured entry) -> ")
    except:
        password = input("Enter password -> ")
    password+='#ab'
    print('\n',end='')
    cap_count=0
    while True:
        cap=captcha(random.randint(6,8))
        cap_count+=1
        print("\nPlease enter this captcha (Case Sensitive) \nFor
verification that user is not robot")
        print(cap)
        cap1=input('-> ')
        if cap1==cap:
            break
        print("\nWrong Captcha Entered")
        if cap_count==3:
            print("\nCaptcha validation failed")
            print("Program Terminating")
            time.sleep(2.5)
            os._exit(1)
        print("You have only",3-cap_count,'chances left')
    with open('Login Details.csv','r') as ob:
        data=csv.reader(ob)
        for i in data:
            if i[0].lower()==username:
                if i[1]==password:
                    print("\nLOGGED IN ")
                    time.sleep(3.5)
                    global user
                    user=username
                    return True
        print("\nWrong Username or Password Information")
    signin()

def username():
    global user
    return user

if __name__ == '__main__':
    login()

```

## quiz\_main.py (Python Module 3)

```
import random
import os
import time
#Importing Login module
import login

def private(): #Private Key Generation for use of the main quiz
function.
    s=''
    letters='qwertyuioplkjhgfdsazxcvbnm'
    letters+=letters.upper()
    letters+='234567890'
    letters+="!@#$%^&*?/'"
    for i in range(8):
        s+=random.choice(letters)
    return 'AB '+s

passcode,correct = 0,private()
_pass=False

def main(quiz_no=1,passpercent=65):
    global passcode,correct
    passcode=correct
    file='quiz '+str(quiz_no)+'.txt'
    quiz(file,passpercent)

def quiz(file,passpercent): #Main quiz function.
    global _pass
    if passcode!=correct:
        print("Fake")
        time.sleep(2.5)
        os._exit(1)
        return
    marks=0
    ob=open(file,'r')
    ans=eval(ob.readline())
    total_ques=len(ans.keys())
    q=ob.readlines()
    done=[]
    no=0
    max_no=int(2*(total_ques/3))
    while True:
        i=random.randint(1,total_ques)
        k=0
        for a in done:
```

```

        if i==a:
            k=1
    if k==1:
        continue
    no+=1
    if no>max_no:
        break
    if no<=max_no:
        line=(i-1)*5
        print('\n',no, '.',q[line][2:],end='',sep='')
        for a in range(line+1,line+5):
            print(q[a],end='')
        user_ans=input("Enter your answer -<a/b/c/d>- -> ")
        if user_ans.isdigit():
            p=int(user_ans)
            if p==1:
                user_ans='a'
            elif p==2:
                user_ans='b'
            elif p==3:
                user_ans=='c'
            elif p==4:
                user_ans=='d'
        if user_ans.lower()==str(ans[i]):
            print('Correct')
            marks+=1
            print("Marks :",marks)
        else:
            print('Wrong')
            print("Marks :",marks)
        done+=[i,]
    print("\nTotal marks obtained are : ",marks,"/",max_no)
    if marks >=((passpercent/100)*max_no):
        _pass = True
    ob.close()

if __name__ == '__main__': #Checking whether program called directly
    or by any other module
    if login.admin():
        main()

```

## **Login Details.csv (Users' Data CSV File)**

(Sample File)

```
bhavberi,qwerty#ab,Over,Complete,BhavBeribhavb@yahoo.com,9877804538
,Phagwara
bhav,qerty#ab,level
2,Complete,Bhav,bhavberi@gmail.com,9877804538,Phagwara
amanvir,qwerty#ab,level
2,Complete,Amanvir,aman@gmail.com,1234067090,Phillaur
```

## **level 1.txt (Modules Text File 1)**

-----

~~ Python ~~

The World-wide Second Ranked 'Non - Java Based' language, ranked by RedMonk Programming Language Rankings in June,2020 (<https://redmonk.com/sograde/2020/07/27/language-rankings-6-20/>), is one of the best high-level languages developed till now.

Python's design philosophy emphasizes code readability with its notable use of significant whitespace.

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It is used extensively all over the world.

Moreover, it has even inspired the creation of many other programming languages also, like swift, ruby, cobra, Go, and many others.

Python was developed by Guido Van Rossum in February 1991.

Features of Python:

### 1. Easy to code:

Python is a high-level programming language. Python is very easy to learn the language as compared to other languages like C, C#, Javascript, Java, etc.

### 2. Object-Oriented Language:

One of the key features of python is Object-Oriented programming. Python supports object-oriented language and concepts of classes, objects encapsulation, etc.

### 3. Interpreted Language:

Python is an Interpreted Language because Python code is executed line by line at a time.

#### 4. Free and Open Source:

It is open-source, this means that source code is also available to the public. So you can modify, improve/extend it.

References : Wikipedia

This Project is based on providing interactive learning experience to the kids who may like and excel in this future giant language.

This Project is made by

'Bhav Beri'

&&

'Amanvir Singh'

-----

## **quiz 1.txt (Quiz Text File 1)**

{1:'b',2:'c',3:'d',4:'b',5:'a',6:'a',7:'d'}

1. Who was the founder of Python ?

a Yukihiro Matsumoto

b Guido van Rossum

c James Gosling

d Bill Joy

2. When was the first version of python released ?

a 1996

b 2000

c 1991

d 1957

3. Python was mainly the succesor of which programming language ?

a FORTRAN

b Lisp

c COBOL

d ABC language

4. After whom Python was named 'Python' ?

a Snake Python

b Monty Python's Flying Circus

c After some monument named Python

d Just randomly

5. What will happen if you import 'this' in your python IDLE ?

a A poem is shown

b An error is shown

- c Nothing happens
  - d The info about the python version is shown
6. What is the domain of the file saved by python ?
- a .py
  - b .rb
  - c .python
  - d .php
7. What are the features of Python ?
- a Object-Oriented Language
  - b Interpreted Language
  - c Free and Open Source
  - d All of the above



## level 2.txt (Modules Text File 2)

~~~~~

### Python Fundamentals

In this, you'll be learning about Python's basics.

#### Python Character Set

Character set is a set of valid characters that a language can recognize. Python supports Unicode encoding standard. That means, it has the following character set:

1. Letters                   -> A-Z, a-z
2. Digits                   -> 0-9
3. Special Characters -> + - \* / \*\* \ ( ) [ ] { } // = != == " ' "" & # (and many more...)
4. Whitespaces           -> Blank space, tabs, carriage return, newline

#### Tokens

The smallest individual unit in a program is called a Token or a Lexical Unit

Python has following tokens:

1. Keywords
2. Identifiers(Names)
3. Literals
4. Operators
5. Punctuations

For more information, visit: <https://www.quora.com/What-are-tokens-in-python>

#### Barebones of a Python Program

Let us talk about the basic structure of a Python program-what all it contain.

1. Expressions: An expression is any legal combination of symbols that represents a value.

Ex:

- (i): 15 (expressions that are values only)
- (ii): a+5 (complex expressions that produce a value when evaluated)

2. Statement: A statement is a programming instruction that does something i.e., some action takes place.

Ex:

- (i): print('Hello')

-The above statement calls print function and prints 'Hello' as output.

- (ii): a=15

Note: When a statement executes, it may or may not yield a value.

3.Comments: Comments are additional readable information, which can be read by programmer but these are ignored by Python Interpreter. In Python, comments begin with symbol '#' (Pound or hash character) and end with the end of physical line.

Ex:

a=15 # 15 is assigned to variable 'a'  
-The line written after # is a comment.

And there are many more other things which come under topic 'Python Fundamentals'.

To know more, visit:

<https://www.learncbse.in/python-programming-fundamentals-class-11-12-introduction/>  
or

<https://mycbseguide.com/blog/cbse-revision-notes-class-11-computer-science-python/>

~~~~~

Next quiz is a mock test for the final test.

It will also count towards the final completion of the course.

To Pass you must score atleast 65% marks.

~~~~~

## **quiz 2.txt (Quiz Text File 2)**

{1:'a',2:'b',3:'b',4:'c',5:'a',6:'b',7:'c',8:'b',9:'d',10:'c',11:'b',12:'b'}

1. Suppose listExample is ['h','e','l','l','o'], what is len(listExample) ?

- a) 5
- b) 4
- c) None
- d) Error

2. 1. Which of the following is a Python tuple?

- a [1, 2, 3]
- b (1, 2, 3)
- c {1, 2, 3}
- d {}

3. Which is the correct operator for power(x,y) ?

- a X^y
- b X\*\*y
- c X^^y
- d None of the mentioned

4. What will be the output of 'abcd'[2:] ?

- a a
- b ab
- c cd
- d dc

5. Suppose s is assigned as follows: s='Phagwara', All the following expressions produce the same result except one. Which one?

a s[::-5]

b s[::-1][::-5]

c s[::-1][-1]+s[len(s)-1]

d s[0]+s[-1]

6. Select the correct statement : print(math.ceil(random.random()))

a Output is 0

b Output is -1

c Output is 1

d only math library needs to be imported.

7. Which of the following is an invalid statement?

a a, b, c = 1000, 2000, 3000

b a = b = c = 1,000,000

c a b c = 1000 2000 3000

d abc = 1,000,000

8. Which of the following function flushes the files implicitly ?

a flush()

b close()

c open()

d fflush()

9. Suppose list1 is [3, 5, 25, 1, 3], what is min(list1) ?

a 3

b 5

c 25

d 1

10. Which arithmetic operators cannot be used with strings ?

a +

b \*

c -

d All of the mentioned

11. Which one of these is floor division ?

a /

b //

c %

d None of the mentioned

12. What is the answer to this expression, 22 % 3 is?

a 7

b 1

c 0

d 5

## #Final level

This is the final level of the course.

- You have to attempt all the questions.
- You must score atleast 80% marks to pass in the exam.

### quiz -1.txt (Quiz Text File 10)

# #Final quiz

1. Which of the following cannot be a variable name ?

a Python

b MyName

c 2nd\_Name

d My NAmE

2. Given the lists `L=[1,3,6,82,5,7,11,92]` , find the output of `print(L[2:5])`

a [6,82,5]

b [6,82,5,7]

c [3,6,82]

d [3,6,82,5]

3. Identify the valid arithmetic operator in Python from the following.

a ?

 $b <$ 

C \*\*

d and

4. Suppose a tuple T is declared as  $T = (10, 12, 43, 39)$ , which of the following is incorrect?

```
a print(T[1])
```

b  $T[2] = -29$

```
c print(max(T))
```

```
d print(len(T))
```

5. Suppose list1 is [1, 5, 9], what is sum(list1) ?

a 1

b 9

c 15

d Error

6. Identify the valid declaration of L -> L = ['Mon', '23', 'hello', '60.5']  
a string  
b list  
c tuple  
d dictionary
7. Which of the following types of table constraints will prevent the entry of duplicate rows?  
a Select  
b Distinct  
c Primary Key  
d NULL
8. Rearrange the following terms in increasing order of data transfer rates -> Gbps, Mbps, Tbps, Kbps, bps  
a Kbps, Bps, Tbps, Mbps, Gbps  
b Bps, Tbps, Mbps, Kbps, Gbps  
c Kbps, Mbps, Bps, Gbps, Tbps  
d Bps, Kbps, Mbps, Gbps, Tbps
9. Suppose list1 is [2, 33, 222, 14, 25], What is list1[-1]?  
a Error  
b None  
c 25  
d 2
10. Evaluate (10 > 5 and 7 > 12 or not 18 > 3) ->  
a 0  
b 1  
c -1  
d 2
11. Which is the correct form of declaration of dictionary?  
a Day={1:'monday',2:'tuesday',3:'wednesday'}  
b Day=(1;'monday',2;'tuesday',3;'wednesday')  
c Day=[1:'monday',2:'tuesday',3:'wednesday']  
d Day={1'monday',2'tuesday',3'wednesday'}
12. \_\_\_\_\_ is an example of Public cloud.  
a Gmail  
b Microsoft Teams  
c Google Drive  
d Bing
13. 'randint()' is a function of which python module ?  
a math  
b random  
c turtle  
d tkinter
14. What is the output of this expression, 3\*1\*\*3 ?  
a 27  
b 9  
c 3  
d 1
15. Suppose list1 is [2445,133,12454,123], what is max(list1) ?

a 2445  
b 133  
c 12454  
d 123

## **LINKS TO PROJECT**

**via Repl.it (Online Interpreter) :**

<https://repl.it/@bhavberi/LearningPython>

**via Git-Hub (Source-Code) :**

<https://github.com/bhavberi/LearningPython>

# OUTPUTS

## Main Menu

```
If you want to login as student, enter 1
If you want to signup as student, enter 2
If you want to login as admin, enter 3
To exit, enter 0
->
```



## Sign up Screen

```
If you want to login as student, enter 1
If you want to signup as student, enter 2
If you want to login as admin, enter 3
To exit, enter 0
-> 2
```

← For sign up

```
Enter the username which you want to take(Atleast 3 letters long)
(Condition to availability)
-> abcdef
```

← Asking for username

```
Enter your full name -> Amanvir Singh
Enter your full email (in form of abc@xyz.pqr) -> amanvirsingh@gmail.com
Enter your phone number(10 digits) -> 1234567890
```

```
Enter your city name -> Phagwara
Enter password(min. 6 digits long) (Secured entry) ->
```

← Password

```
Entered Password -> *****
Confirm your password (Secured entry) ->
```

```
Enter 1 for quizzes only package
Enter 2 for complete package
-> 2
```

← Package Selection

```
Please enter this captcha (Case Sensitive)
for verification that user is not robot
AB AzaRecx
-> AB AzaRecx
```

← Captcha

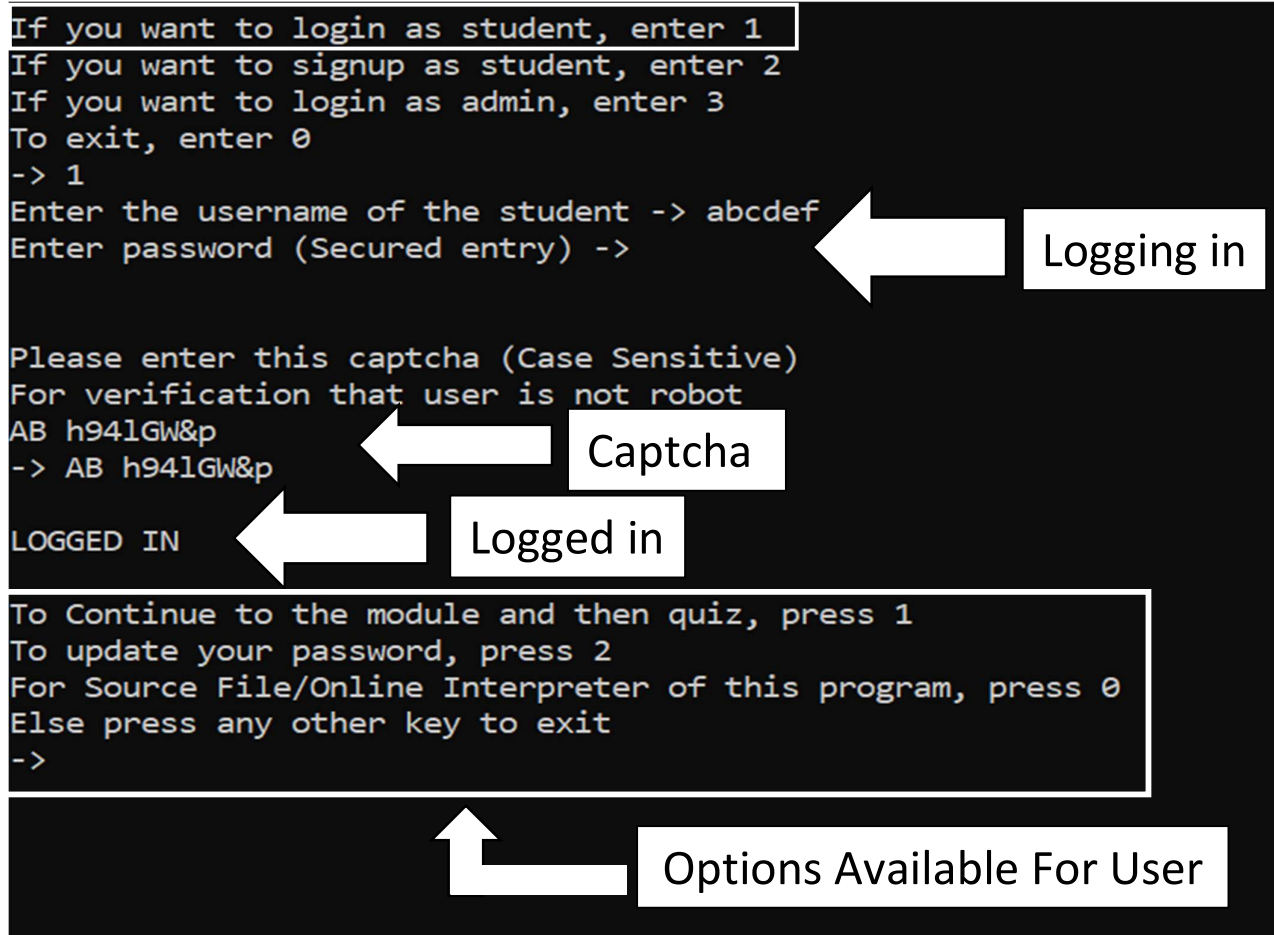
## Login Screen

```
If you want to login as student, enter 1
If you want to signup as student, enter 2
If you want to login as admin, enter 3
To exit, enter 0
-> 1
Enter the username of the student -> abcdef
Enter password (Secured entry) ->

Please enter this captcha (Case Sensitive)
For verification that user is not robot
AB h94lGW&p
-> AB h94lGW&p

LOGGED IN

To Continue to the module and then quiz, press 1
To update your password, press 2
For Source File/Online Interpreter of this program, press 0
Else press any other key to exit
->
```



The diagram illustrates a login screen interface with several key components and user interactions:

- Initial Menu:** The screen displays four options: "If you want to login as student, enter 1", "If you want to signup as student, enter 2", "If you want to login as admin, enter 3", and "To exit, enter 0".
- User Selection:** The user enters "1" to proceed with student login.
- Username and Password Entry:** The user is prompted to "Enter the username of the student" (entering "abcdef") and "Enter password (Secured entry)".
- Captcha Verification:** The user is prompted to "Please enter this captcha (Case Sensitive)" for verification that the user is not a robot. The user enters "AB h94lGW&p".
- Login Confirmation:** The screen displays "LOGGED IN", indicating successful authentication.
- Post-Login Options:** The user is presented with three options: "To Continue to the module and then quiz, press 1", "To update your password, press 2", and "For Source File/Online Interpreter of this program, press 0".

Annotations with arrows point to the following elements:

- Logging in:** Points to the password entry prompt.
- Captcha:** Points to the captcha entry prompt.
- Logged in:** Points to the "LOGGED IN" status message.
- Options Available For User:** Points to the menu of options available after logging in.

# Captcha

```
If you want to login as student, enter 1
If you want to signup as student, enter 2
If you want to login as admin, enter 3
To exit, enter 0
-> 1
Enter the username of the student -> abcdef
Enter password (Secured entry) ->
```

```
Please enter this captcha (Case Sensitive)
For verification that user is not robot
```

```
AB eD5uFTkE
-> Ab skjsjkb
```

Entering Wrong  
Captcha

```
Wrong Captcha Entered
You have only 2 chances left
```

```
Please enter this captcha (Case Sensitive)
For verification that user is not robot
```

```
AB 8YhfbWu
-> AB 8YhfbWu
```

Entering Correct  
Captcha

```
LOGGED IN
```

```
To Continue to the module and then quiz, press 1
To update your password, press 2
For Source File/Online Interpreter of this program, press 0
Else press any other key to exit
->
```

# Module

```
-> 1

~~~~~

~~ Python ~~
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~~~~~

Press any key to continue to the quiz ->
```

## Attempting Quiz

Press any key to continue to the quiz -> a

Starting quiz

1. Python was mainly the sucesor of which programming language ?

- a FORTRAN
- b Lisp
- c COBOL
- d ABC language

Enter your answer -<a/b/c/d>- -> d

Correct

Marks : 1

Providing Correct  
Answer

2. Who was the founder of Python ?

- a Yukihiro Matsumoto
- b Guido van Rossum
- c James Gosling
- d Bill Joy

Enter your answer -<a/b/c/d>- -> b

Correct

Marks : 2

3. What are the features of Python ?

- a Object-Oriented Language
- b Interpreted Language
- c Free and Open Source
- d All of the above

Enter your answer -<a/b/c/d>- -> b

Wrong

Marks : 2

Providing Wrong  
Answer

4. After whom Python was named 'Python' ?

- a Snake Python
- b Monty Python's Flying Circus
- c After some monument named Python
- d Just randomly

Enter your answer -<a/b/c/d>- -> b

Correct

Marks : 3

Quiz Passed

Total marks obtained are : 3 / 4

# Changing Password

To Continue to the module and then quiz, press 1

To update your password, press 2

For Source File/Online Interpreter of this program, press 0

Else press any other key to exit

-> 2

To Change Password

Enter password(min. 6 digits long) (Secured entry) ->

Entered Password -> \*\*\*\*\*

Confirm your password (Secured entry) ->

Password changed sucessfully

Entering New  
Password

To Continue to the module and then quiz, press 1

To update your password, press 2

For Source File/Online Interpreter of this program, press 0

Else press any other key to exit

->



# Logging in as Admin

```
If you want to login as student, enter 1
If you want to signup as student, enter 2
If you want to login as admin, enter 3
To exit, enter 0
-> 3
```

```
Enter username to login with (as admin) -> adminab
Enter password for username adminab (Secured entry) ->
```

Logging in as Admin

```
Please enter this captcha (Case Sensitive)
For verification that user is not robot
AB R5kgy7
-> AB R5kgy7
Admin Logged In
```

Options  
Available  
For Admin

Details of  
All Users

```
To Continue to the module and then quiz, press 1
To continue to the quiz, press 9
To see the login details of all the users till now, press 5
For Source File/Online Interpreter of this program, press 0
Else press any other key to exit
```

```
-> 5
Serial  Username      Next Level  Package Type  Password
~~Name      Phone Number  Email      City
1  bhavberi      Over      Complete      qwerty#ab
~~ Bhav Beri  9877804538  bhavberi@yahoo.com  Phagwara
2  bhav          level 2    Complete      qerty#ab
~~ Bhav      9877804538  bhavberi@gmail.com  Phagwara
3  amanvir        level 2    Complete      qwerty#ab
~~ Amanvir    1234067090  aman@gmail.com      Phillaur
4  abcdef         level 2    Complete      asdfghjkl#ab
~~ Amanvir Singh 1234567890  amanvirsingh@gmail.com  Phagwara
```

## Links for Source File

```
To Continue to the module and then quiz, press 1
To update your password, press 2
For Source File/Online Interpreter of this program, press 0
Else press any other key to exit
```

```
-> 0
```

```
For Github link(For the Source Code), press 1
For repl.it link(For online interpreter), press 2
```

```
-> 2
```

```
https://repl.it/@bhavberi/LearningPython
```

```
This is the Repl link, either copy it and then paste in your browser,
Or enter 9 to open the link directly in your browser.
```

```
Press any other key to go back to menu.
```

```
->
```



# Terminating

```
To Continue to the module and then quiz, press 1
To update your password, press 2
For Source File/Online Interpreter of this program, press 0
Else press any other key to exit
-> a
```

```
Thanks for using this software.
```

```
By Bhav and Amanvir
```

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  ^ ^
  ! ` ` !
    ,
  <->
```

```
You can download the files from the link
https://github.com/bhavberi/LearningPython
Or
https://repl.it/@bhavberi/LearningPython
```

## **REQUIREMENTS :**

- Knowledge of Using Basic Computer, including but not limited to keyboard, for using the software.
- Python Version not older than *Version 3.8.0* installed in the computer, or using Online Interpreter.
- Windows 8 or above.
- For best smooth experience of the program, RAM: 1 GB+

## **LIMITATIONS :**

- Only inputs by KeyBoard supported, no usage of mouse needed.
- User must take care of the type of the input asked, and the program *may* crash, if a wrong type of input is given (Like string in place of integer type of input).
- No online synchronization of the users' data if the program is being used locally on a computer system and not on online interpreter.

# **BIBLIOGRAPHY**

## **PYTHON VERSION USED FOR DEVELOPMENT :**

Version 3.8.2

## **SOFTWARE USED FOR DEVELOPMENT :**

- ❖ Online Software -> Repl.it
- ❖ Offline/Local -> Python Idle Version 3.8.2 & Python 3.8.3 Execution Shell

## **BOOK/S FOR REFERENCE :**

- ❖ Computer Science with Python (Class XI)  
Writer : Sumita Arora  
Publisher : Dhanpat Rai Publications
- ❖ Computer Science with Python (Class XII)  
Writer : Sumita Arora  
Publisher : Dhanpat Rai Publications

## **WEBSITES FOR REFERENCE :**

- ❖ [google.com](https://www.google.com)
- ❖ [python.org](https://www.python.org)
- ❖ [wiki.python.org](https://wiki.python.org)
- ❖ [docs.python.org](https://docs.python.org)
- ❖ [educative.io](https://educative.io)
- ❖ [freecodecamp.org](https://www.freecodecamp.org)
- ❖ [programiz.com](https://www.programiz.com)
- ❖ [geeksforgeeks.org](https://www.geeksforgeeks.org)
- ❖ [learnpython.org](https://learnpython.org)
- ❖ [stackoverflow.com](https://stackoverflow.com)
- ❖ [pythonforbeginners.com](https://pythonforbeginners.com)
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- ❖ [beginnersbook.com](https://beginnersbook.com)
- ❖ [tutorialspoint.com](https://tutorialspoint.com)
- ❖ [realpython.org](https://realpython.org)
- ❖ [pythonforthelab.com](https://pythonforthelab.com)

**A & B**

**Softwares**

*Thank*  
.....

*You*  
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