

# Sant Hari Dass Public School

# COMPUTER SCI.

# PRACTICAL FILE

Made By Vivek Kumar

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Practical File

Submitted To: Mr. Nitin Kapoor

# CERTIFICATE

This is to certify that master/miss

\_\_\_\_\_ of class \_\_\_\_\_

And section \_\_\_\_\_ with

roll number \_\_\_\_\_

And exam number \_\_\_\_\_ has

completed his/her experiments in the subject

of \_\_\_\_\_ as required

according to the syllabus prescribed by the  
central board of secondary education for the

academic session 20\_\_\_\_-20\_\_\_\_.

Teacher In-charge

Examiner's Signature

Principal's Signature

Date: \_\_\_\_\_

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# ACKNOWLEDGEMENT

It would be my utmost pleasure to express my sincere thanks to Mr. Nitin Kapoor. In Providing a helping hand in this project there valuable guidance, support and supervision all through the project titled "CS Practical File" are responsible for attaining its present form Vivek Kumar 12<sup>th</sup> A. I want to clarify that it's my original work and not just copied and pasted from the internet , some project took me about an year to build during my academics.

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# Some Of My Projects

Visit My Resources For Fun With Programming:

[1]: <http://www.vivekascoder.ml/>,

[2]: <http://www.vivekascoder.000webhostapp.com>

[3]: YouTube Channel: "vivek as coder"

## @1 LyApp

Description: It is a application that I've made using python in order to get lyrics of English Songs as well as listening them at the same time.

Libraries Used:

[1]: requests\_html

[2]: playsound

[3]: threading

[4]: time

[5]: tkinter

Code:

{Backend File: lyric\_scrapper.py}

#URL: [https://www.google.com/search?q=infinity+lyrics&oq=](https://www.google.com/search?q=infinity+lyrics&oq=infinity+lyrics&aqs=chrome.0.0l6.7793j0j7&sourceid=chrome&ie=UTF-8)

[infinity+lyrics&aqs=chrome.0.0l6.7793j0j7&sourceid=](https://www.google.com/search?q=infinity+lyrics&oq=infinity+lyrics&aqs=chrome.0.0l6.7793j0j7&sourceid=chrome&ie=UTF-8)

[chrome&ie=UTF-8](https://www.google.com/search?q=infinity+lyrics&oq=infinity+lyrics&aqs=chrome.0.0l6.7793j0j7&sourceid=chrome&ie=UTF-8)

import threading

from playsound import playsound

import time

def getSoundLength(filename):

try:

from mutagen.mp3 import MP3

```

    audio = MP3(filename)
    return audio.info.length
except:
    "Getting Error Call vivekascoder."

```

```

def getLyricsFromGoogle(l, f):
    try:
        from requests_html import HTMLSession
        session = HTMLSession()
        sp = l.split()
        lyric = ""
        for i in sp:
            lyric += i + "+"
        lyric = lyric[:-1]
        url = "https://www.google.com/search?q="+lyric+"&oq="+ lyric
        +"&aqs=chrome.0l6.7793j0j7&sourceid=chrome&ie=UTF-8"
        r = session.get(url)
        lyric_div = r.html.find("span[jsname='YS01Ge']")
        whole_lyric = []
        for i in range(len(lyric_div)):
            #print(lyric_div[i].text)
            #time.sleep((getSoundLength(f)/len(lyric_div))/2)
            whole_lyric.append(lyric_div[i].text)
        return whole_lyric
    except:
        return "Getting Error Call vivekascoder."

```

```

class Back(threading.Thread):
    def __init__(self, f):
        threading.Thread.__init__(self)
        self.f = f
    def run(self):
        playsound(self.f)

```

### {LyApp.py}

# Designing A Gui Version Of LyApp

```

from tkinter import *
from tkinter import ttk
import lyric_scrapper as m

```



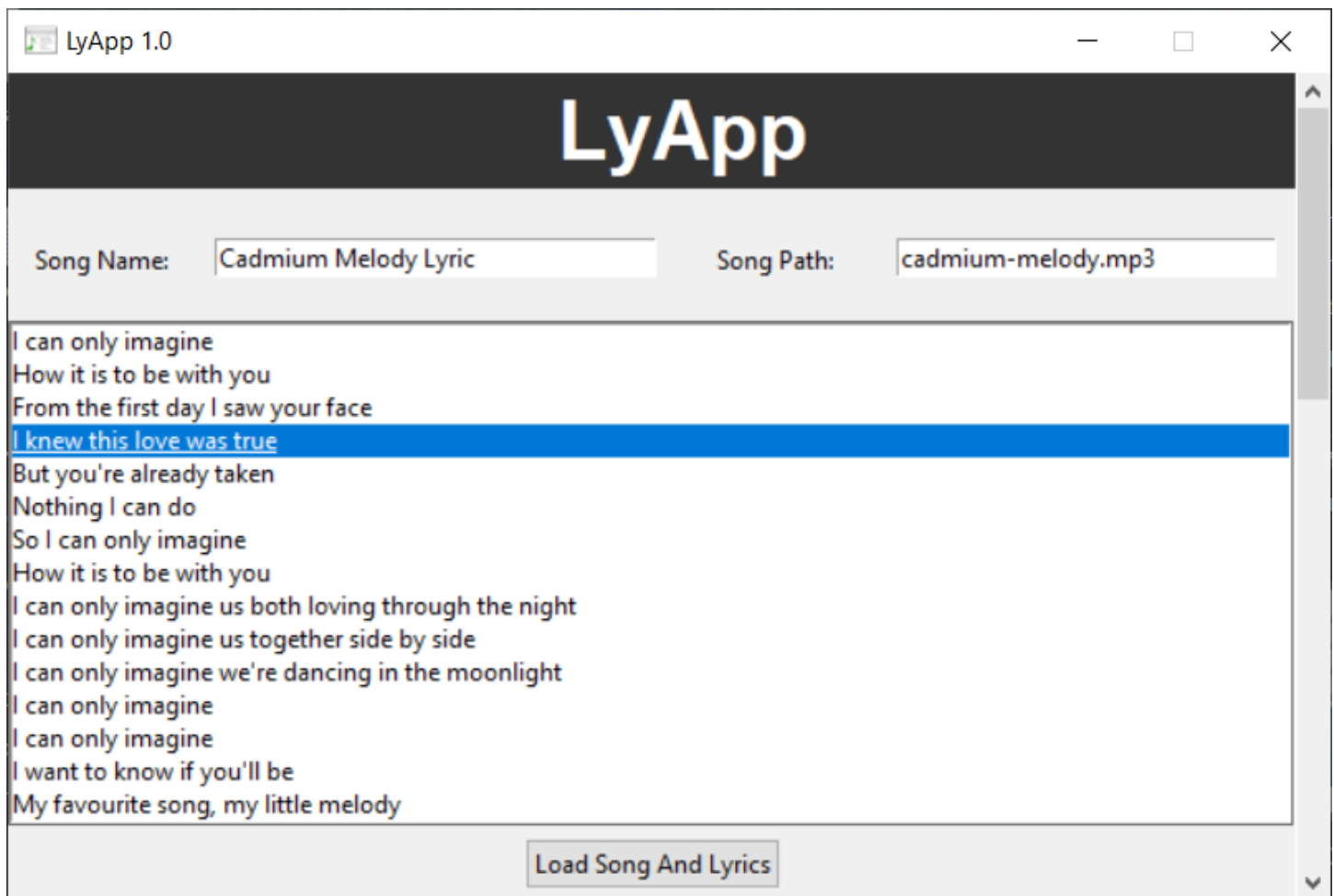
```

from lyric_scrapper import Back
class LyApp(Tk):
    def __init__(self):
        super(LyApp, self).__init__()
        self.title("LyApp 1.0")
        self.minsize(640, 400)
        self.wm_iconbitmap("lyapp.ico")
        self.resizable(False, False)
        self.draw()
    def draw(self):
        Label(self, text="LyApp", font=("arial", 30, "bold"),\
              bg="#333", fg="white", justify=CENTER,\
              pady=3, width=27).place(x=0, y=0)
        Label(self, text="Song Name:").place(x=10, y=80)
        Label(self, text="Song Path:").place(x=340, y=80)
        self.songname = Entry(self, width=35)
        self.songname.place(x=100, y=80)
        self.songpath = Entry(self, width=30)
        self.songpath.place(x=430, y=80)
        # Lyric ListBox
        scrollbar = Scrollbar(self)
        scrollbar.pack(side=RIGHT, fill=Y)
        self.lybox = Listbox(self, width=103, height=15)
        self.lybox.place(x=0, y=120)
        self.lybox.config(yscrollcommand=scrollbar.set)
        scrollbar.config(command=self.lybox.yview)
        self.btn = ttk.Button(self, text="Load Song And Lyrics",\
                              command=self.load).place(x=250, y=370)
    def load(self):
        name = self.songname.get()
        path = self.songpath.get()
        whole_lyric = m.getLyricsFromGoogle(name, path)
        back = Back(path)
        back.start()
        for i in whole_lyric:
            self.lybox.insert(END, i)
ly = LyApp()

```

ly.mainloop()

### Screenshots:



## @2 Jarvis

**Description:** It is a application that I've made using python in order to automate my general work, basically it's a chat bot that can follow your commands, soon I will implement NLTK and ML in it.

### Libraries Used:

- [1]: requests\_html
- [2]: playsound
- [3]: speech\_recognition
- [4]: time



[5]: gTTs  
 [6]: webbrowser  
 [7]: Wikipedia  
 [8]: os, random  
 [9]: ... and many more...

### Code:

```
import speech_recognition as sr
from gtts import gTTS
from playsound import playsound
import os
import time
import random
import wikipedia
import webbrowser
from today_temp import todayTemp
from imdb_rating import getRatings

r = sr.Recognizer()

# Given "speak" is a function to speak any argumented string
def speak(string):
    a = random.random()
    tts = gTTS(text=string, lang="en")
    tts.save("audio"+str(a)+".mp3")
    playsound("audio"+str(a)+".mp3", True)
    os.remove("audio"+str(a)+".mp3")
def todayTemp():
    from requests_html import HTMLSession
    ses = HTMLSession()
    r = ses.get("https://weather.com/en-IN/weather/today/l/aff9460b9160c73ff01769fd83ae82cf37cb27fb7eb73c70b91257d413147b69")
    temp = r.html.find(".today_nowcard-temp > span", first=True).text
    qoute = r.html.find(".today_nowcard-phrase", first=True).text
    return [temp, qoute]
def getRatings(movie_name):
```

```

from requests_html import HTMLSession
ses = HTMLSession()
r =
ses.get("https://www.google.com/search?q="+movie_name+"e&oq="+movie_name
+"&aqs=chrome.69i59j0l3j69i61j69i60.3343j0j9&sourceid=chrome&ie=UTF-
8")
ratings = r.html.find(".IZACzd", first=True).text
return ratings

def configure(string):
    print("[INFO] Configuring to speak...")
    if "visit" in string:
        url = string[6:]
        speak(url)
        webbrowser.open(url)
    if "what is" in string:
        print("[INFO] Found 'What is' in Your Code...")
        url = string[8:]
        print("[INFO] Getting Summary From Wikipedia ...")
        data = wikipedia.summary(url, sentences=1)
        print("[INFO] I Found '"+ data +"'")
        speak(url)
    if string == "today temperature":
        url = "today's temperature is "+todayTemp()[0] + " and weather is
"+todayTemp()[1]
        speak(url)
    if string.lower() == "who i am":
        url = "You are my master"
        speak(url)
    if "tell me the ratings of" in string.lower():
        print(string)
        print("Movie : " + string[18:])
        url = "IMDB ratings of " + string[20:] + "is" + getRatings(string[20:])
        speak(url)
    else:
        print(string)

```

while True:

```
speak("Hello Vivek , How Can I Help You")
with sr.Microphone() as source:
    audio = r.listen(source)
print("[INFO] Sending Informaation To Google...")
data = r.recognize_google(audio)
print("[INFO] Recognized From Google...")
configure(data)
```

**Screenshots:**

```
[INFO] Sending Informaation To Google...
[INFO] Recognized From Google...
[INFO] Configuring to speak...
[INFO] Found 'What is' in Your Code...
[INFO] Getting Summary From Wikipedia ...
[INFO] I Found 'Animals are multicellular eukaryotic organisms that form the biological kingdom Animalia.'
what is animals
[INFO] Sending Informaation To Google...
```

## @3 Weather App

**Description:** It is a application that I've made using python in order to get the last month weather data from *weather.com* Its Based on webscraping.

**Libraries Used:**

- [1]: requests
- [2]: terminal\_tables
- [3]: SQLITE3
- [4]: BeautifulSoup4

**Code:**

```

from bs4 import BeautifulSoup
import requests
from terminaltables import SingleTable

page = requests.get('https://weather.com/en-IN/
weather/tenday/l/fc38461b8e430a56bc75d4c69a445548b3f96321c1fe4c2bf2652baa6007d554')

main_page = BeautifulSoup(page.content, 'html.parser')
# All DOne LEts Code

title_address = main_page.find_all(class_="locations-title ten-day-page-
title")[0].get_text()

# First Data Row Of Tables
# th: table heading

th = [] # Contain table heading
tr_list = [] # Contain Other Table Data
regions = main_page.find_all('th')
for i in range(len(regions)):
    th.append(regions[i].get_text())

# Now Comes the table-row[tr]

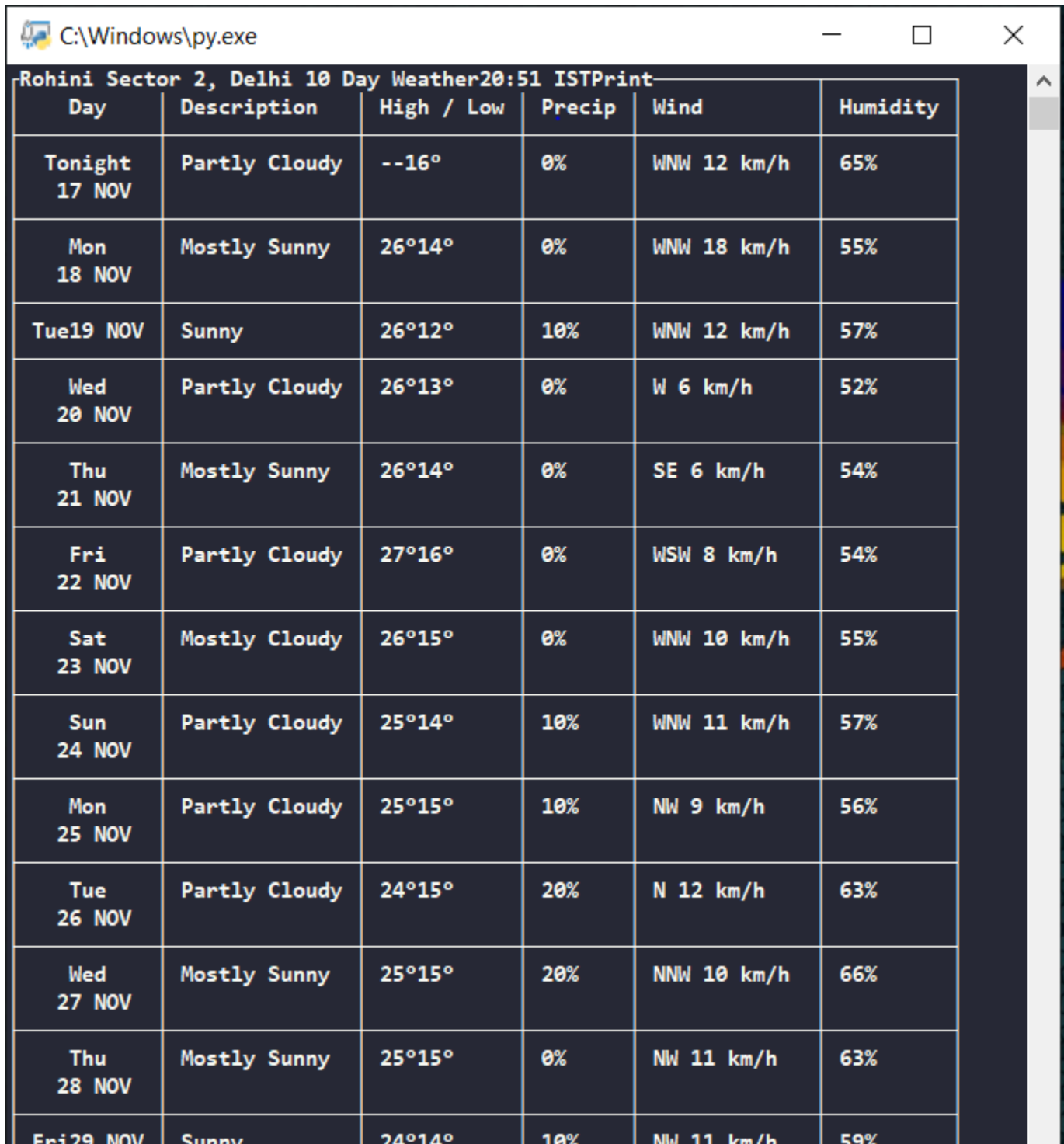
tr = main_page.find_all('tr')
table_data = [th]
for i in range(1,len(tr)):
    temp_list = []
    for j in range(1, len(list(tr[i].children))):
        temp_list.append(list(tr[i].children)[j].get_text())
    table_data.append(temp_list)

# Table Creation
table = SingleTable(table_data, title=title_address)
table.justify_columns[0] = 'center'

```

```
table.inner_row_border = True
print(table.table)
input()
```

### Screenshots:



Rohini Sector 2, Delhi 10 Day Weather20:51 ISTPrint

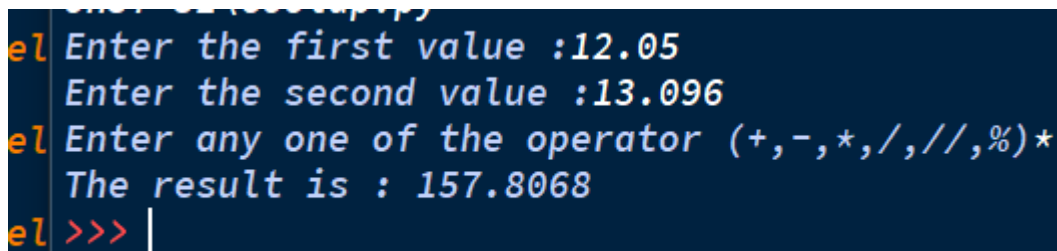
Day	Description	High / Low	Precip	Wind	Humidity
Tonight 17 NOV	Partly Cloudy	--16°	0%	WNW 12 km/h	65%
Mon 18 NOV	Mostly Sunny	26°14°	0%	WNW 18 km/h	55%
Tue19 NOV	Sunny	26°12°	10%	WNW 12 km/h	57%
Wed 20 NOV	Partly Cloudy	26°13°	0%	W 6 km/h	52%
Thu 21 NOV	Mostly Sunny	26°14°	0%	SE 6 km/h	54%
Fri 22 NOV	Partly Cloudy	27°16°	0%	WSW 8 km/h	54%
Sat 23 NOV	Mostly Cloudy	26°15°	0%	WNW 10 km/h	55%
Sun 24 NOV	Partly Cloudy	25°14°	10%	WNW 11 km/h	57%
Mon 25 NOV	Partly Cloudy	25°15°	10%	NW 9 km/h	56%
Tue 26 NOV	Partly Cloudy	24°15°	20%	N 12 km/h	63%
Wed 27 NOV	Mostly Sunny	25°15°	20%	NNW 10 km/h	66%
Thu 28 NOV	Mostly Sunny	25°15°	0%	NW 11 km/h	63%
Fri29 NOV	Sunny	24°14°	10%	NW 11 km/h	59%

# Python Programs

**Program 1:** Program to enter two numbers and print the arithmetic operations like +, -, \*, /, // and %.

Solution:

```
result = 0
val1 = float(input("Enter the first value :"))
val2 = float(input("Enter the second value :"))
op = input("Enter any one of the operator (+,-,*,/,//,%)")
if op == "+":
    result = val1 + val2
elif op == "-":
    result = val1 - val2
elif op == "*":
    result = val1 * val2
elif op == "/":
    if val2 == 0:
        print("Please enter a value other than 0")
    else:
        result = val1 / val2
elif op == "//":
    result = val1 // val2
else:
    result = val1 % val2
print("The result is :",result)
```



```
el Enter the first value :12.05
Enter the second value :13.096
el Enter any one of the operator (+,-,*,/,//,%)*
The result is : 157.8068
el >>> |
```

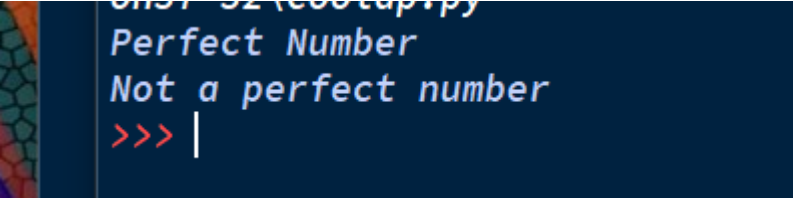
**Program 2:** Write a program to find whether an inputted number is perfect or not.



Solution:

```
def pernum(num):  
    divsum=0  
    for i in range(1,num):  
        if num%i == 0:  
            divsum+=i  
    if divsum==num:  
        print('Perfect Number')  
    else:  
        print('Not a perfect number')
```

```
pernum(6)  
pernum(15)
```



```
0137 02 (0004ip.py  
Perfect Number  
Not a perfect number  
>>> |
```

**Program 3:** Write a Program to check if the entered number is Armstrong or not. Solution:

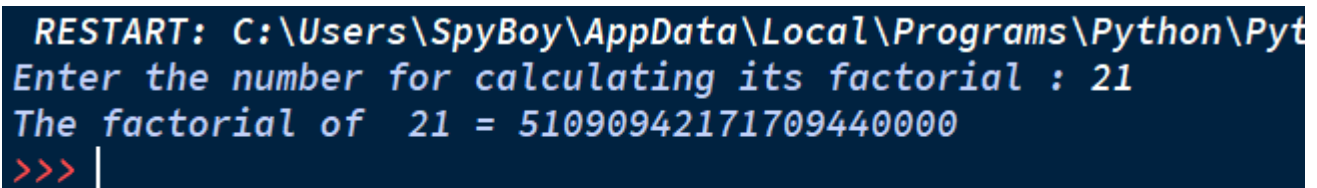
```
no=int(input("Enter any number to check : "))
no1 = no
sum = 0
while(no>0):
    ans = no % 10;
    sum = sum + (ans * ans * ans)
    no = int (no / 10)
if sum == no1:
    print("Armstrong Number")
else:
    print("Not an Armstrong Number")
```

```
Enter any number to check : 132
Not an Armstrong Number
>>>
RESTART: C:\Users\SpyBoy\AppData\Local\Pro
Enter any number to check : 12321
Not an Armstrong Number
>>> |
```

**Program 4:** Write a Program to find factorial of the entered number.

Solution:

```
#Program to calculate the factorial of an inputted number (using
while loop)
num = int(input("Enter the number for calculating its factorial :
"))
fact = 1
i = 1
while i<=num: -
    fact = fact*i
    i = i + 1
print("The factorial of ",num,"=",fact)
```



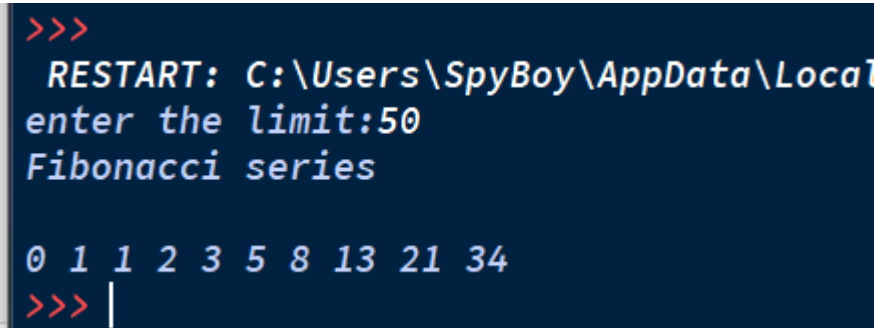
RESTART: C:\Users\SpyBoy\AppData\Local\Programs\Python\Pyt  
Enter the number for calculating its factorial : 21  
The factorial of 21 = 51090942171709440000  
>>> |

43%

**Program 5:** Write a Program to enter the number of terms and to print the Fibonacci Series.

Solution:

```
i =int(input("enter the limit:"))
x = 0
y = 1
z = 1
print("Fibonacci series \n")
print(x, y,end= " ")
while(z<= i):
    print(z, end=" ")
    x = y
    y = z
    z = x + y
```



```
>>>
RESTART: C:\Users\SpyBoy\AppData\Local
enter the limit:50
Fibonacci series

0 1 1 2 3 5 8 13 21 34
>>> |
```

**Program 6:** Write a Program to enter the string and to check if it's palindrome or not using loop.

Solution:

# Program to enter the string and check if it's palindrome or not using 'for' loop.

```
msg=input("Enter any string : ")
newlist=[]
newlist[:0]=msg
l=len(newlist)
ed=l-1
for i in range(0,l):
    if newlist[i]!=newlist[ed]:
        print ("Given String is not a palindrome")
        break
    if i>=ed:
        print ("Given String is a palindrome")
        break
    l=l-1

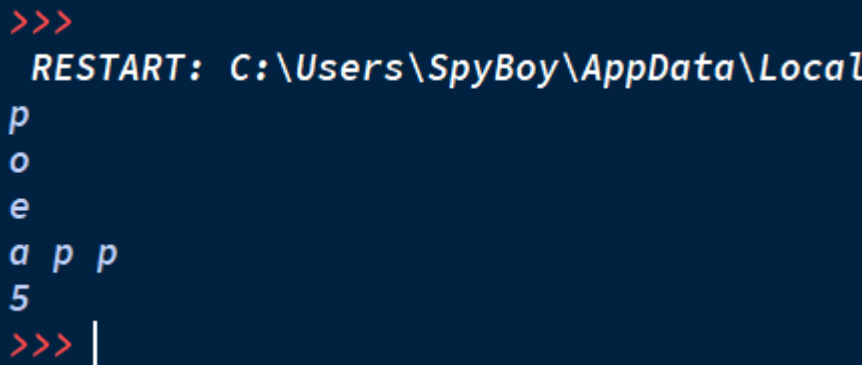
    ed = ed - 1
```

```
>>>
RESTART: C:\Users\SpyBoy\AppData\Local\
Enter any string : ABCBA
Given String is a palindrome
\
>>> |
```

**Program 7:** Write a Program to show the outputs based on entered list

Solution:

```
my_list = ['p','r','o','b','e']
# Output: p
print(my_list[0])
print(my_list[2])
print(my_list[4])
# my_list[4.0]
# Nested List
n_list = ["Happy", [2,0,1,5]]
# Nested indexing
print(n_list[0][1],n_list[0][2],n_list[0][3])
print(n_list[1][3])
```



```
>>>
RESTART: C:\Users\SpyBoy\AppData\Local
p
o
e
a p p
5
>>> |
```

**Program 8: Write a Program to enter the numbers in a list using split () and to use all the functions related to list.**

Solution:

```
# numbers = [int(n, 10) for n in input().split(",")]
# print (len(numbers))

memo=[]

for i in range (5):
    x=int(input("enter no. \n"))
    memo.insert(i,x)
    i+=1

print(memo)
memo.append(25)
print("Second List")
print(memo)
msg=input("Enter any string : ")
newlist=[]
newlist[:0]=msg
l=len(newlist)
print(l)
```

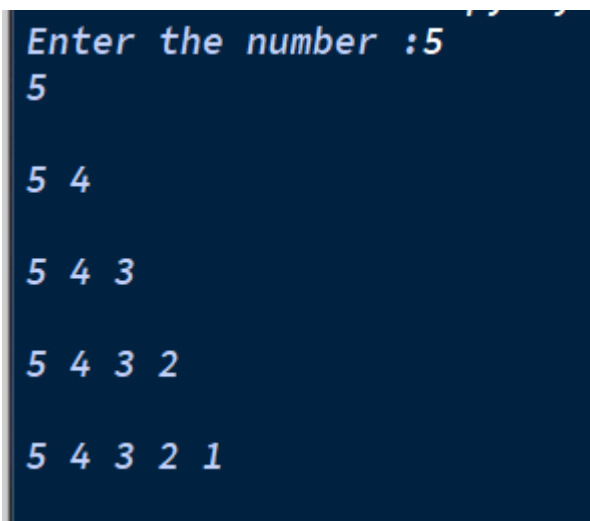
```
15
enter no.
54
enter no.
35
[20, 20, 15, 54, 35]
Second List
[20, 20, 15, 54, 35, 25]
Enter any string : help
4
```



**Program 9:** Write a Program to enter the number and print the Floyd's Triangle in decreasing order.

Solution:

```
#Floyd's triangle
n=int(input("Enter the number :"))
for i in range(5,0,-1):
    for j in range(5,i-1,-1):
        print (j,end=' ')
    print('\n')
```



```
Enter the number :5
5

5 4

5 4 3

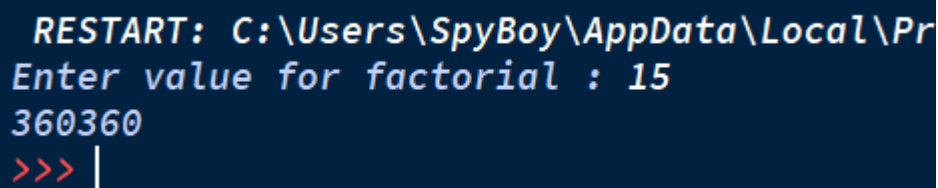
5 4 3 2

5 4 3 2 1
```

**Program 10:** Write a Program to find factorial of entered number using user-defined module fact().

Solution:

```
import factfunc
x=int(input("Enter value for factorial : "))
ans=factfunc.fact(x)
print(ans)
# Fact Func Module File:
def fact(no):
    f = 1;
    while no>10:
        f = f*no
        no=no-1
    return f
```



```
RESTART: C:\Users\SpyBoy\AppData\Local\Pr
Enter value for factorial : 15
360360
>>> |
```

**Program 11:** Write a Program to enter the numbers and find Linear Search, Binary Search, Lowest Number and Selection Sort using list/array code.

Solution:

```
arr=[]  
  
def array_operation():  
    ch=1  
    while ch!=10:  
        print('Various Array operation\n')  
        print('1 Create and Enter value\n')  
        print('2 Print Array\n')  
        print('3 Reverse Array\n')  
        print('4 Linear Search\n')  
        print('5 Binary Search\n')  
        print('6 Lowest Number \n')  
        print('7 Selection Sort\n')  
        print('10 Exit\n')  
        ch=int(input('Enter Choice '))  
        if ch==1 : appendarray()  
        elif ch==2 : _array()  
        elif ch==3 :  
            reverse_array()  
        elif ch==4 :  
            linear_search()  
        elif ch==5 :  
            binary_search()  
        elif ch==6 :  
            min_number()  
        elif ch==7 :
```

```
        selection_sort()

def appendarray():
    for i in range(0,10):
        x=int(input('Enter Number : '))
        arr.insert(i,x)

def print_array():
    for i in range(0,10):
        print(arr[i]),

def reverse_array():
    for i in range(1,11):
        print(arr[-i]),

def lsearch():
    try:
        x=int(input('Enter the Number You want to search : '))
        n=arr.index(x)
        print ('Number Found at %d location'% (i+1))
    except:
        print('Number Not Exist in list')

def linear_search():
    x=int(input('Enter the Number you want to search : '))
    fl=0
    for i in range(0,10):
        if arr[i]==x :
            fl=1
            print ('Number Found at %d location'% (i+1))
            break

    if fl==0 :
        print ('Number Not Found')
```

```
def binary_search():
    x=int(input('Enter the Number you want to search : '))
    fl=0
    low=0
    heigh=len(arr)
    while low<=heigh :
        mid=int((low+heigh)/2)
        if arr[mid]==x :
            fl=1
            print ('Number Found at %d location'% (mid+1))
            break
        elif arr[mid]>x :
            low=mid+1
        else :
            heigh=mid-1
    if fl==0 :
        print ('Number Not Found')

def min_number():
    n=arr[0]
    k=0
    for i in range(0,10):
        if arr[i]<n :
            n=arr[i]
            k=i
    print('The Lowest number is %d'%(n))

def selection_sort():
    for i in range(0,10):
        n=arr[i]
```

```
k=i
for j in range(i+1,10):
    if arr[j]<n :
        n=arr[j]
        k=j
arr[k]=arr[i]
arr[i]=n
array_operation()
```

3 Reverse Array

4 Linear Search

5 Binary Search

6 Lowest Number

7 Selection Sort

10 Exit

Enter Choice 5

Enter the Number you want to search : 25

**Program 12:** Write a Program to read data from data file and show Data File Handling related functions utility in python.

Solution:

```
f=open("test.txt",'r')
print(f.name)

f_contents=f.read()
print(f_contents)
f_contents=f.readlines()
print(f_contents)
f_contents=f.readline()
print(f_contents)

for line in f:
    print(line, end='')

f_contents=f.read(50)
print(f_contents)
size_to_read=10
f_contents=f.read(size_to_read)

while len(f_contents)>0:
    print(f_contents)
    print(f.tell())
    f_contents=f.read(size_to_read)
```

```
>>>
RESTART: C:\Users\SpyBoy\AppData\Local\Programs\
test.txt
Hello World From File

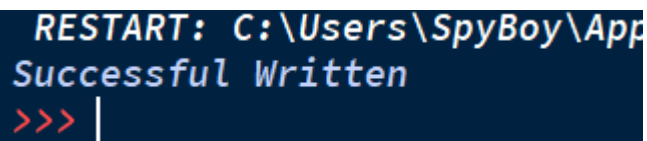
[]
```



**Program 13:** Write a Program to read data from data file in append mode and use writeLines function utility in python.

Solution:

```
af=open("test.txt",'a')
lines_of_text = ("One line of text here",\
                 "and another line here",\
                 "and yet another here", "and so on and so forth")
af.writelines('\n' + lines_of_text)
print("Successful Written")
af.close()
```



```
RESTART: C:\Users\SpyBoy\AppData\Local\Microsoft\Windows\Apps\PythonSoftwareFoundation.Python.3.9.0.0_qbkz9z6z...
Successful Written
>>> |
```

**Program 14:** Write a Program to read data from data file in read mode and count the particular word occurrences in given string, number of times in python.

Solution:

```
read=f.readlines()
f.close()
times=0
times2=0
chk=input("Enter String to search : ")
count=0
for sentence in read:
    line=sentence.split()
    times+=1
    for each in line:
        line2=each
        times2+=1
        if chk==line2:
            count+=1
print("The search String ", chk, "is present : ", count, "times")
print(times)
print(times2)
```

```
RESTART: C:\Users\SpyBoy\AppData\Local\Programs\Python\Python39\python.exe
Enter String to search : Hello
The search String Hello is present : 1 times
4
42
```

**Program 15:** Write a Program to read data from data file in read mode and append the words starting with letter 'T' in a given file in python.

Solution:

```
f=open("test.txt",'r')
read=f.readlines()
f.close()
id=[]
for ln in read:
    if ln.startswith("T"):
        id.append(ln)
print(id)
```

```
RESTART: C:\Users\SpyBoy\AppData\Local
['Total Dhammal\n', 'Titanic\n']
>>> |
```

**Program 16:** Write a Program to show MySQL database connectivity in python.

Solution:

```
import mysql.connector
con=mysql.connector.connect(host='localhost',user='root',password='
',db='school')
stmt=con.cursor()
query='select * from student;'
stmt.execute(query)
data=stmt.fetchone()
print(data)
```

```
>>>
RESTART: C:\Users\SpyBoy\AppData\Local\Programs\Python\Pyth
on37-32\factfunc.py
[(1, 'Vivek', 'Hari Shankar', 'Kapashera' )]
>>> |
```

**Program 17:** Write a Python program to implement all basic operations of a stack, such as adding element (PUSH operation), removing element (POP operation) and displaying the stack elements (Traversal operation) using lists.

Solution:

```
s=[]
c="y"
while (c=="y"):
    print ("1. PUSH")
    print ("2. POP ")
    print ("3. Display")
    choice=int(input("Enter your choice: "))
    if (choice==1):
        a=input("Enter any number :")
        s.append(a)
    elif (choice==2):
        if (s==[]):
            print ("Stack Empty")
        else:
            print ("Deleted element is : ",s.pop())
    elif (choice==3):
        l=len(s)
        for i in range(l-1,-1,-1): #To display elements from last
            element to first
            print (s[i])
    else:
        print("Wrong Input")
    c=input("Do you want to continue or not? ")
```

```
2. POP
3. Display
Enter your choice: 2
Stack Empty
Do you want to continue or not? y
1. PUSH
```

**Program 18:** Write a program to display unique vowels present in the given word using Stack.

Solution:

```
vowels = ['a','e','i','o','u']
word = input("Enter the word to search for vowels :")
Stack = []
for letter in word:
    if letter in vowels:
        if letter not in Stack:
            Stack.append(letter)
print(Stack)
print("The number of different vowels present in",word,"is",len(Stack))
```

```
Enter the word to search for vowels :i
['i']
The number of different vowels present in i is 1
>>> |
```

**Program 19:** Write a program in Python to add, delete and display elements from a queue using list.

Solution:

```
a=[]
c='y'
while (c=='y'):
    print ("1. INSERT")
    print ("2. DELETE ")
    print ("3. Display")
    choice=int(input("Enter your choice: "))
    if (choice==1):
        b=int(input("Enter new number: "))
        a.append(b)
    elif (choice==2):
        if (a==[]):
            print("Queue Empty")
        else:
            print ("Deleted element is:",a[0])
            a.pop(0)
    elif (choice==3):
        l=len(a)
        for i in range(0,l):
            print (a[i])
    else:
        print("wrong input")
    c=input("Do you want to continue or not: ")
```

```
3. Display
Enter your choice: 1
Enter new number: 25
Do you want to continue or not: y
1. INSERT
2. DELETE
3. Display
Enter your choice: 3
25
Do you want to continue or not: |
```



**Program 20:** Perform all the operations with reference to table 'Employee' through MySQL-Python connectivity.

Solution:

#### Connecting To The Database:

```
import MySQLdb
# Using connect method to connect database
db1 = MySQLdb.connect("localhost","root","","TESTDB" )
# using cursor() method for preparing cursor
cursor = db1.cursor()
# Preparing SQL statement to create EMP table
sql = "CREATE TABLE EMP(empno integer primary key,ename
varchar(25) not null,salary float);"
cursor.execute(sql)
# disconnect from server
db1.close()
```

#### Inserting Into Database:

```
import MySQLdb
db1 = MySQLdb.connect("localhost","root","","TESTDB" )
cursor = db1.cursor()
# Prepareing SQL statement to insert one record with the given
values
sql = "INSERT INTO EMP VALUES (1,'ANIL KUMAR',86000);"
try:
    cursor.execute(sql)
    db1.commit()
except:
    db1.rollback()
db1.close()
```

#### Getting Records From The Database:

```
import MySQLdb
db1 = MySQLdb.connect("localhost","root","","TESTDB" )
cursor = db1.cursor()
sql = "SELECT * FROM EMP WHERE SALARY > 70000;"
try:
    cursor.execute(sql)
    #using fetchall() function to fetch all records from the table
    EMP and store in resultset
    resultset = cursor.fetchall()
for row in resultset:
```

```

        print (row)
except:
    print ("Error: unable to fetch data")
db1.close()

```

#### Updating record in database:

```

import MySQLdb
db1 = MySQLdb.connect("localhost","root","","TESTDB" )
cursor = db1.cursor()
#Preparing SQL statement to increase salary of all employees whose
salary is less than 80000
sql = "UPDATE EMP SET salary = salary +1000 WHERE salary<80000;"
try:
    cursor.execute(sql)

    db1.commit()
except:

    db1.rollback()
db1.close()

```

#### Deleting A Record In The Database:

```

import MySQLdb
db1 = MySQLdb.connect("localhost","root","","TESTDB" )
cursor = db1.cursor()
sal=int(input("Enter salary whose record to be deleted : "))
#Preparing SQL statement to delete records as per given condition
sql = "DELETE FROM EMP WHERE salary =sal"
try:
    cursor.execute(sql)
    print(cursor.rowcount, end=" record(s) deleted ")
    db1.commit()
except:
    db1.rollback()
db1.close()

```

