1.Write a program to find out the prime numbers

# getting the input from user

n=int(input())

# prime number starts from 2 so n>1 condition

# Iterating the input starting from 2 to check prime or not

if n>1:

  for i in range(2,n):

    if n%i==0:

      print(n,'is not a prime number')

      break

  else:

      print(n,"is prime number")

else:

  print(n,"is not a prime number")

2.write a program to create the equation (a+b+c) \* (a-b-c) \* ab + a^2 + b ^2 + (abc)^3

str1=a

str2=b

str3=c

equation = (a+b+c)\*(a-b-c)\*a\*b+a\*\*2+b\*\*2+(a\*b\*c)\*\*3

print(equation)

3.urlist = ['wood','knife','axe'] , mylist = ['tree', 'apple', 'mango', 'melon'] – combine two lists

urlist = ['wood','knife','axe']

mylist = ['tree', 'apple', 'mango', 'melon']

# 2 lists given . Combining both lists and storing in results

# list - will allow duplicates , ordered & changeable

# We can add/remove/change in the lists

# while combining 2 lists, 2nd list details will be after the 1st details & allows duplicates if have any

result= urlist+mylist

print(result)

4. write a program for natural number based on user input

# getting the input from user

getinput=int(input())

# If else condition is used to check the input and display o/p

# natural num starts from 1 so condition set as >=1.

if getinput>=1:

  print("This is Natural Number")

else:

  print("This is Not Natural Number")

5.write class and function for the equation sqrt(x1-x2) ^ 2 + sqrt( y1 – y2 ) ^2 using try except handling

import math

def equation(self, x1, y1, x2, y2):

        try:

            return (math.sqrt(x1 - x2) \*\* 2) + (math.sqrt(y1 - y2) \*\* 2)

        except ValueError:

            return "Invalid input values. Square root of a negative number is not defined."

6. Name = “Guvi python” - write a program to get “python” word from the string

Name ='Guvi Python' # input

# String slicing

#Accessing elements of the string with index number (includes space)

print(Name[5:])

7.Using class and function - Write a program for palindrome Ex. Madam

def palindrome(userinput):

  reverse= userinput[::-1]     # reversing the given string

  if (userinput==reverse):     # checking if palindrome

    return True                # if both input & reversed string is same returns True

  return False

userinput='madam'              # giving input

output=palindrome(userinput)   # calling function

if output:

  print( userinput,"is Palindrome")

else:

  print( userinput,"is Not Palindrome")

8.using file handling – write a text file in ur system with “hello world”

# file handling using with method

# With - automatically closes the file once it is done. no need to add close()

# W+ mode- to write & then read the file

# named file name as miniproject storing in text document

#seek - to search from 0 Character.

with open("miniproject.txt",'w+') as file:

  file.write("Hello World")

  file.seek(0)

  out=file.read()

  print(out)

9.create option button using tkinter GUI in python

# importing tkinter lib , \* to import all from tkinter (can mention explicitly if any)

from tkinter import \*

# calling Tk and storing in variable root (act as base to add widgets in the interface)

# .pack() - adds the value directly

root=Tk()

# StringVar - to define varible type , storing it in a variable 'SelectedValue'

SelectedValue = StringVar()

# By default all the option buttons will be enabled

# To disable that we have used set() to set it as 'None'

SelectedValue.set('None')

# get() - to get the values inside the function

def change\_option():

    Selected= SelectedValue.get()

    print(f"Selected option: {Selected}")

# Defining the playername & the respective team name.

# iterating one by one

options= [('Virat','RCB'),('Dhoni','CSK'),('Rohit','MI'),('Sanju','RR')]

for name,team in options:

    Radiobutton(root,text=name,variable=SelectedValue, value= team, command=change\_option).pack()

def buttonclick():

    Selected= SelectedValue.get()

    Label(root,text= f"Selected Player's Team Name: {Selected}").pack()

# Create a button to get selected option

get\_option\_button = Button(root, text="Get Selected Option", command= buttonclick)

get\_option\_button.pack()

root.mainloop()  # to start the main loop root

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10.Keep only numbers from the following string x = “ 89e9jcd^o38829@3%3,/mkl$w1”

# To keep only numbers using regex method

# Importing regex library

# findall - to find the digits 0-9 in the given input 'x'

import re

x = '89e9jcd^o38829@3%3,/mkl$w1'

Number= re.findall('[0-9]',x)

print(Number)