**Python – mini Course project (IITM P12)**

**EXPlAINATION**

**SOLUTIONS**

**1.Write a program to find out the prime numbers**

def Prime\_Number(n):

for i in range(2,1+n//2):

if n % i == 0:

return False

return True

n = int(input("Enter number"))

if Prime\_Number(n):

print("Yes,", n, "is Prime")

else:

print("No,", n, "is not a Prime")

Here i created a function for find prime number With boolean value results.

The function contain the i % 2 == 0 calculation This will find given value is Prime or not

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

**def calc(a,b,c):**

**stepOne=a+b+c**

**stepTwo=a-b-c**

**stepThree=a\*b**

**stepFour=a\*a**

**stepFive=b\*b**

**stepSix=a\*b\*c**

**stepSix=stepSix\*stepSix\*stepSix**

**sum=(stepOne\*stepTwo\*stepThree) + stepFour + stepFive + stepSix**

**return sum**

**a=int(input("Enter A "))**

**b=int(input("Enter B "))**

**c=int(input("Enter C "))**

**print("The Solved Equation Result is {}".format(calc(a,b,c)))**

In the second problem i created function called calc() for the calculation purpose and i give six variables for the sorting the big equation . Here im not give straight equation may its not understandable .

For the easy to read i wright the code like this

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

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

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

print("Compained two list is {}".format(urlist+mylist))

Here i combined 2 list use of + operator .In python it was easy to add the 2 or more list to join the lists .

Also we can use append function too with use a gor loop to add the value in the lists .

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

**import re**

**n=1**

**try:**

**n=int(input("Enter a Natural Number"))**

**except:**

**print("Type Error please enter valid number")**

**number=bool(re.match('^[1-9]+$', str(n)))**

**if number == True:**

**print("{} is a natural number".format(n))**

Here i use a regex for find the natural numbers also give a exception if given value is not integer

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

import math

class equation:

def \_\_init\_\_(self, x1, x2, y1, y2):

self.x1 = x1

self.x2 = x2

self.y1 = y1

self.y2 = y2

def cacl(self):

try:

sumOfEquation = math.sqrt((self.x1 - self.x2) \*\* 2 + (self.y1 - self.y2) \*\* 2)

return sumOfEquation

except TypeError:

print("Please use Valid data")

except ValueError:

print("Give a Good Values")

sum = equation(3,3,1,2)

print(sum.cacl())

Here i created a class called equation for solve the given expression

Inside the class i give a function call calc for the calculation purpose . and a give an exception for if not value data came the exception will work .

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

str="Guvi python"

listOfString=str.split(" ")

findStr="python"

if findStr in listOfString:

indexOfString=listOfString.index(findStr)

print("Find The String is")

print(listOfString[indexOfString])

else:

print("Word Not Found")

Here i write the code for split the python word .so i split the string use the space and find the index of python where is placed and print the python value

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

class plaindrom:

def \_\_init\_\_(self, enterStr):

self.enterStr = enterStr

def isPalindrome(self):

x=list(self.enterStr)

y=[]

y.extend(x)

x.reverse()

if(x==y):

return True

return False

sum = plaindrom("MADAM")

if sum:

print("Given Value is palindrom")

else :

print("Given String is not Palindrom")

Here i created a class and function for find palindrom or not .used boolean value result.

If the string is palindrome result in true or false then i find the results .

Used list operations to find the output .

Convert into string to list .

And list have reverse function for the reverse order so it will help to find the reverse of the string .

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

with open("myfile.txt", "w") as file1:

file1.write("Hello World")

with open("myfile.txt", "r+") as file1:

print(file1.read())

Use file operation to write in the file .

Here i created a file contain value hello world . w is used to read the value .r is used for read the value

9.create option button using tkinter GUI in python

from tkinter import \*

root = Tk()

root.geometry('200x100')

btn = Button(root, text = 'Click me !', bd = '5',

command = root.destroy)

btn.pack(side = 'top')

root.mainloop()

Here i created a window width and height contain 200\*100

Then placed a booton on top with click the buton distroy the window

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

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

print(int(''.join(i for i in x if i.isdigit())))

Here i use in line forloop it is help to find the digits and placed in a variable .

Read the string in one by one with checking the character is digit or not

If character in digit its join to the pervious digits