**TechKnow School Assignment sheet**

**Assignment 1.1**: Python program to find the largest element among three Numbers

**Step1**: Take 3 non-zero input values

num1 = 10; num2 = 50; num3 = 15

**Step2**: Write an elif condition statement

if (num1 >= num2) and (num1 >= num3): #logical operator and

largest = num1

elif (num2 >= num1) and (num2 >= num3):

largest = num2

else:

largest = num3

**Step3**: Print the largest element using format

print("Largest element among three numbers is: {}".format(largest))

**Assignment 1.2**: Python Program to check given number is Prime number or not

**Step1**: Input an number to be checked using the input method studied in 1.4

num = int(input("Enter a number: ")) #convert string to int

**Step2**: Use a flag to check the prime number

isDivisible = False;

**Step3**: Write a while loop to check the given number is prime or not

i=2;

while i < num:

if num % i == 0:

isDivisible = True;

print ("{} is divisible by {}".format(num,i) )

i += 1;

**Step4**: Print whether the given number is prime or not

if isDivisible:

print("{} is NOT a Prime number".format(num))

else:

print("{} is a Prime number".format(num))

**Assignment** **1.3**: Python Program to display all prime numbers within an interval

**Step1**: Input the range you want to check for prime numbers

index1 = 20; index2 = 50

print("Prime numbers between {0} and {1} are :".format(index1, index2))

**Step2**: For loop to check the prime numbers

for num in range(index1, index2+1): #default step size is 1

if num > 1:

isDivisible = False;

for index in range(2, num):

if num % index == 0:

isDivisible = True;

if not isDivisible:

print(num);

**Assignment 1.4**: Python Program to check given number is Prime number or not (using break)

**Step1**: Input the number

num = int(input("Enter a number: ")) #convert string to int

**Step2**: Flag variable

isDivisible = False;

**Step3**: While loop to check for the prime number

i=2;

while i < num:

if num % i == 0:

isDivisible = True;

print ("{} is divisible by {}".format(num,i) )

break; # this line is the only addition.

i += 1;

**Step4**: Decision making based on the flag variable

if isDivisible:

print("{} is NOT a Prime number".format(num))

else:

print("{} is a Prime number".format(num))

**Assignment 2.1**: Python Program to Check where a String is Palindrome or not?

**Step1**: Enter the string to be checked

myStr = "Madam"

**Step2**: convert entire string to either lower or upper

myStr = myStr.lower()

**Step3**: reverse string

revStr = reversed(myStr)

**Step4**: check if the string is equal to its reverse

if list(myStr) == list(revStr):

print("Given String is palindrome")

else:

print("Given String is not palindrome")

**Assignment 2.2**: Python Program to Sort Words in Alphabetic Order?

Step1: Input the string to be sorted

myStr = "python Program to Sort words in Alphabetic Order"

Step2: breakdown the string into list of words

words = myStr.split()

Step3: sort the list

words.sort()

Step4: print Sorted words are

for word in words:

print(word)

**Assignment 3.1**: Python program to print Highest Common Factor (HCF) of two numbers

**Step1**: Define a function computeHCF which takes 2 input values and returns HCF

def computeHCF(a, b):

"""

Computing HCF of two numbers

"""

smaller = b if a > b else a #consice way of writing if else statement

hcf = 1

for i in range(1, smaller+1):

if (a % i == 0) and (b % i == 0):

hcf = i

return hcf

**Step2**: Input values

num1 = 98

num2 = 78

**Step3**: Print the HCF value using the function defined

print("H.C.F of {0} and {1} is: {2}".format(num1, num2, computeHCF(num1, num2)))

**Assignment** **3.2**: Python program to make a simple calculator that can add, subtract, multiply and division

**Step1**: Definition of functions for all the operations

def add(a, b):

"""

This function adds two numbers

"""

return a + b

def multiply(a, b):

"""

This function multiply two numbers

"""

return a \* b

def subtract(a, b):

"""

This function subtract two numbers

"""

return a - b

def division(a, b):

"""

This function divides two numbers

"""

return a / b

**Step2**: Enter the option

print("Select Option")

print("1. Addition")

print ("2. Subtraction")

print ("3. Multiplication")

print ("4. Division")

**Step3**: take input from user

choice = int(input("Enter choice 1/2/3/4"))

num1 = float(input("Enter first number:"))

num2 = float(input("Enter second number:"))

**Step4**: Decision making logic

if choice == 1:

print("Addition of {0} and {1} is {2}".format(num1, num2, add(num1, num2)))

elif choice == 2:

print("Subtraction of {0} and {1} is {2}".format(num1, num2, subtract(num1, num2)))

elif choice == 3:

print("Multiplication of {0} and {1} is {2}".format(num1, num2, multiply(num1, num2)))

elif choice == 4:

print("Division of {0} and {1} is {2}".format(num1, num2, division(num1, num2)))

else:

print("Invalid Choice")

**Assignment 3.3**: Python program to display the Fibonacci sequence up to nth term using recursive function

**Step1**: Define a method to compute fibonacci

def fibonacci(num):

"""

Recursive function to print fibonacci sequence

"""

return num if num <= 1 else fibonacci(num-1) + fibonacci(num-2)

**Step2**: Number of terms required

nterms = 10

**Step3**: Print the numbers

print("Fibonacci sequence")

for num in range(nterms):

print(fibonacci(num))