CYCLE 1

Module Outcomes	Name of the Experiment	Duration (Hours)	Cognitive Level
CO1	**Develop programs using basic programming constructs in python**		
M1.01	Develop simple python programs using decision control structures	2	Applying
M1.02	Implement python Programs using loop control structures.	2	Applying
M1.03	Implement programs using String	2	Applying
M1.04	Implement programs using list	2	Applying
M1.05	Implement programs using Dictionary Manipulations	2	Applying

M1.01

(a)Any integer is input through the keyboard. Write a python program to find out whether it is an odd number or even number.

(b) Any year is input through the keyboard. Write a python program to determine whether the year is a leap year or not.

(c) If the ages of person1,person2,person3 are input through the keyboard, write a python program to determine the youngest of the three.

(d) Write a python program to find the absolute value of a number entered through the keyboard.

(e) Write a python program to solve the quadratic equation.

Algorithm 1

Step1: enter an integer number
Step 2: Divide the number by 2 and check whether the remainder is 0 or not.
Step 3: If remainder is 0 display the message “the given number is even” otherwise display “the given number is odd”
step4:end

Algorithm2

Step1: enter the year
Step 2: check whether the given year is a multiple of 400 or the year is a multiple of 4 and not a multiple of 100. If true then display the message”the given year is a leap year” otherwise display “not a leap year”.
Step4:end

Algorithm3

Step1: enter the ages of person1,person2,person3
Step 2: Check whether the the age of person1 is smaller than other two persons then display the message “person1 is younger”
Step 3: otherwise check whether the the age of person 2 is smaller than age of person3 then display the message “person2 is younger” otherwise display “person3 is younger”
Step4:end

Algorithm 4

Step1: enter the number
Step 2: check whether the given number is less than 0. If true then multiply the number by -1 and then display the result

Step3: Otherwise display the given number itself
Step4:end

Algorithm5

Step1: enter a, b, and c are the coefficients and real numbers and also $a \neq 0$. If a is equal to 0 that equation is not valid quadratic equation
Step2: calculate discriminant as b^2-4ac
Step 3: check whether the discriminant is greater than zero then display "Roots are real and different.The roots are (-b + √(b2 – 4ac))/2a and -b – √(b2 – 4ac)/2a"
Step4: otherwise check whether the discriminant is equal to zero then display "Roots are real and equal.The roots are (-b/2a)"
Step5: otherwise display"the roots are complex or imaginary roots"