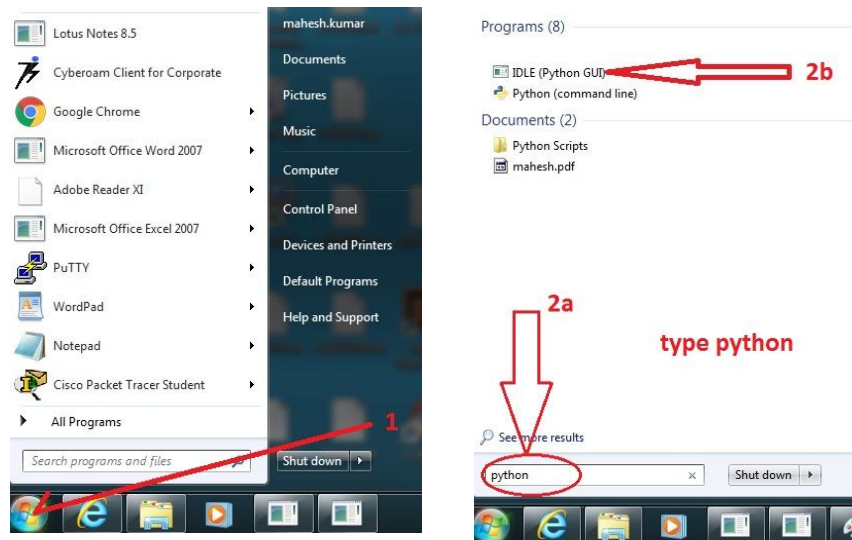## Lab 1

Download Python-3.7 from www.python.org , and install.

After installation open Python as shown in figures.

    A. Execute followings, and evaluate the answer

1. >>>Age = 20
2. >>>Pi = 3.14
3. >>>Name = 'Amit'
4. >>>Laptop@ = 1000000
5. >>>sirname = Sharma
6. >>>class = 'Advanced Theoretical Zymurgy'
7. >>>zipcode = 2492
8. >>>phone = 07542265
9. >>>76Street = ' for big parade'

    B. Evaluate following expressions

        I.   >>>minute = 59
       II.   >>>minute/60

      III.   >>>17
      IV.   >>>x
       V.   >>>x + 17

      VI.   >>>miles = 26.2
     VII.   >>>print miles * 1.61

   VIII.   >>>print 1
      IX.   >>>x = 2
       X.   >>>print x
      XI.   >>>x + 1

C. Assume that we execute the following assignment statements:

width = 17

height = 12.0

delimiter = '.'

For each of the following expressions, write the value of the expression and the type (of the value of the expression).

1. width/2
2. width/2.0
3. height/3
4. 1 + 2 * 5
5. delimiter * 5

D. Verify the rules of precedence mathematical operators.

E. Calculate simple interest on shell.

Note: Request your Teacher to demonstrate python program execution **from a file, taking**

input from user at run time.

Write rest of the programs on the same pattern.

F. Calculate compound interest.

$$I = P\left(1 + \frac{r}{n}\right)^{nt} - P$$

G. Find the value of force when mass of a body and its acceleration is given.

F = m * a

H. Convert a temperature from Celsius to Fahrenheit.

$$C = (F - 32) \cdot \frac{5}{9}$$

I. Convert a temperature from Fahrenheit to Celsius.

$$F = C \cdot \frac{9}{5} + 32$$

J. Compute the area of circle, when its diameter is given.

A = Π * r * r

K. Compute the volume of a cylinder, when its height and diameter is given.

The volume **V** for a right circular cylinder with radius **r** and height **h** is given by the formula

$$V = \pi r^2 h$$

L. Compute the surface area of a cylinder, when its height and diameter is given.

$$A = 2\pi r^2 + 2\pi rh$$

M. Compute the area of a rectangular prism, when it's all sides is given.

area = 2 · (h · d + h · w + d · w)

N. Compute the volume of a rectangular prism, when it's all sides are given.

volume = h · d · w