

# 1 : Programs on the Basic Concepts of Python

Program 1 -There are 5280 feet in a mile. Write a Python statement that calculates and prints the number of feet in 13 miles.

Program 2 - Write a Python statement that calculates and prints the number of seconds in 7 hours, 21 minutes and 37 seconds.

Program 3 - The perimeter of a rectangle is  $2w+2h$ , where  $w$  and  $h$  are the lengths of its sides. Write a Python statement that calculates and prints the length in inches of the perimeter of a rectangle with sides of length 4 and 7 inches.

Program 4 - The circumference of a circle is  $2\pi r$  where  $r$  is the radius of the circle. Write a Python statement that calculates and prints the circumference in inches of a circle whose radius is 8 inches. Assume that the constant  $\pi=3.14$ .

Program 5 - Given  $p$  dollars, the future value of this money when compounded yearly at a rate of  $r$  percent interest for  $y$  years is  $p(1+0.01r)^y$ . Write a Python statement that calculates and prints the value of 1000 dollars compounded at 7 percent interest for 10 years.

Program 6 -Write a Python expression that combines the string "Joe Warren is 52 years old." from the string "Joe Warren" and the number 52 and then prints the result (Hint: Use the function `str` to convert the number into a string.)

Program 7 -Write a single Python statement that combines the three strings "My name is", "Joe" and "Warren" (plus a couple of other small strings) into one larger string "My name is Joe Warren." and prints the result.

Program 8 - The distance between two points  $(x_0,y_0)$  and  $(x_1,y_1)$  is  $(x_0-x_1)^2+(y_0-y_1)^2$ . Write a Python statement that calculates and prints the distance between the points (2,2) and (5,6).

Program 9 - Write a program to check whether a year is leap year or not.

Program 10 - Write a program to output the grade of student based on the percentage entered by the student.

Program 11 - Write a Python program to check whether an alphabet is a vowel or consonant.

Program 12 - Write a python function that receive one number and print it is even number or odd number.

Program 13 - Write a python program that receive 5 numbers by user and print sum and average of these numbers.

Program 14 - Write code that prints Hello if 1 is stored in spam, prints Howdy if 2 is stored in spam, and prints Greetings! if anything else is stored in spam.