

Lab Work 16(Functions)

Objectives: This lab work aims to test your understanding of "Functions" and practice on programming some problems using the functions in the lab hours during this week.

Q1: Write a program to take a depth (in kilometers) inside the earth as input data; compute and display the temperature at this depth in degrees Celsius and degrees Fahrenheit, The relevant formulas are:

- Celsius = 10 (depth) + 20
- Fahrenheit = 1.8 (Celsius) + 32

Include two functions in your program:

1. Function *celsius_at_depth* should compute and return the Celsius temperature at a depth measured in kilometers.
2. Function *fahrenheit* should convert a Celsius temperature to Fahrenheit.

Q2: Write a program to find the following using functions:

1. Sphere surface area ($4 \pi r^2$)
2. Sphere volume ($\frac{4}{3} \pi r^3$)

NOTE: Use functions to find powers of the radius

Home Work:

Q4: Write a program (using a function) that takes a positive integer number and displays PRIME if the number is prime and NOT PRIME otherwise.

NOTE: a prime number is an integer that has no integral factors but itself and 1

Q6: Write a function that displays the perfect numbers between 1 and 1000.

NOTE: A perfect number is a positive integer that is equal to the sum of its positive integral factors, including 1 but excluding itself.