**TASK-12**

**EXPLANATION:**

When an object is falling because of gravity, the following formula can be used to determine the distance of object falls in specific time period.

**d = 1 / 2 gt2**

The variables in the formula are as follows: d is the distance in meters, g is 9.8, and t is the amount of time, in seconds, that object has been falling.

Write a function named fallingDistance that accepts an object’s falling time (in seconds) as an argument. The function should return distance, in meters, that the object has fallen during that time interval. Write a program that demonstrates the function by calling it in a loop that passes the values 1 through 10 as arguments, and display the return value.

**INPUT:**

#include <iostream>

#include <cmath>

using namespace std ;

double fallingDistance ( int ) ;

int main ()

{

for ( int time = 1 ; time <= 10 ; time++ )

{

cout << "The falling distance of the object is : " << fallingDistance (time) << " m. " << endl ;

}

}

double fallingDistance ( int time )

{

double distance , gravitational\_acceleration = 9.8 ;

return distance = gravitational\_acceleration \* pow ( time , 2 ) / 2 ;

}

**OUTPUT:**

