

**Submitted by:** Abdul Rauf

**Roll no:** 22-10586

**Course:** COMP351 A

**Assignment:** Assignment 1

**Submitted to:** Saad Saleem

**Problem Statement:**

You need to write at least five automated test cases using unit testing framework of any language of your choice. You also need to create a testing suite. All the test cases should be executed individually and under one test suite. You can use any programs / software system of your choice for testing e.g., Junit for Java code, PYunit for Python code, PHPUnit for PHP code, etc.

**Target program:**

The testing target of this assignment is a python program named as **project.py** located in the ./code folder. This program consists of 5 functions which are

* area(radius): Program to compute the area of a circle up to 2 decimal places
* circumference(radius): Program to computer the circumference of a circle up to 2 decimal places
* is\_even(number): Program to determine if a number is even or not.
* is\_vowel(char): Program to check if the given character is vowel or not
* inches\_to\_cm(inches): Program to convert height from inches to centimeters

**Unit testing framework:**

The language used for this program testing is **python**. The unit testing framework used for this assignment is apython library named as **unittest.** It is a built-in library, so no manual installation is required.

**Test Cases:**

There are 5 function which are required to be tested. All the test cases are as below:

* area(radius):

|  |  |  |
| --- | --- | --- |
| Given Value of radius | Return Value | Expected Value |
| 4 | 50.27 | 50.27 |
| 0 | 0 | 0 |
| 10 | 314.16 | 314.16 |

* circumference(radius)

|  |  |  |
| --- | --- | --- |
| Given Value of radius | Return Value | Expected Value |
| 7 | 43.98 | 43.98 |
| 0 | 0 | 0 |
| 12 | 75.4 | 75.4 |

* is\_even(number)

|  |  |  |
| --- | --- | --- |
| Given Value of number | Return Value | Expected Value |
| 4 | True | True |
| 0 | True | True |
| 7 | False | False |

* is\_vowel(char)

|  |  |  |
| --- | --- | --- |
| Given Value of char | Return Value | Expected Value |
| Z | False | False |
| O | True | True |
| Y | False | False |

* inches\_to\_cm(inches)

|  |  |  |
| --- | --- | --- |
| Given Value in inches | Return Value | Expected Value |
| 1 | 2.54 | 2.54 |
| 12 | 30.48 | 30.48 |
| 7.4 | 18.8 | 18.8 |

**Screen Shots**

These test cases are ran automatically by python unit test and the given results are

Text

Description automatically generated with low confidenceEach dot in the first line contains the status of test case, “.” means the test ran without any error. The function ran 5 test cases with the values given in the test case tables for each function and the results are as expected without any error.