

**Sardar Vallabhbhai National Institute of Technology
Surat-395007**

Web Programming and Python (AI104)

Assignment – 6

Object-Oriented Programming

1. Write a class called `Password_manager`. The class should have a list called `old_passwords` that holds all of the user's past passwords. The last item of the list is the user's current password. There should be a method called `get_password` that returns the current password and a method called `set_password` that sets the user's password. The `set_password` method should only change the password if the attempted password is different from all the user's past passwords. Finally, create a method called `is_correct` that receives a string and returns a boolean *True* or *False* depending on whether the string is equal to the current password or not.
2. Write a class called `Rock_paper_scissors` that implements the logic of the game Rock paper-scissors. For this game the user plays against the computer for a certain number of rounds. Your class should have fields for the how many rounds there will be, the current round number, and the number of wins each player has. There should be methods for getting the computer's choice, finding the winner of a round, and checking to see if someone has won the (entire) game. You may want more methods.
3. Write a class called `Converter`. The user will pass a length and a unit when declaring an object from the class—for example, `c = Converter(9,'inches')`. The possible units are inches, feet, yards, miles, kilometers, meters, centimeters, and millimeters. For each of these units there should be a method that returns the length converted into those units. For example, using the `Converter` object created above, the user could call `c.feet()` and should get 0.75 as the result.