```
input  : (1) sample point matrix X ∈ ℝ^p, Y ∈ ℝ^q of size N (2) point
         z_x ∈ ℝ^p, z_y ∈ ℝ^q
output: test statistic T, dependent on chosen test, and p-value P

function T, P = TEST(X, Y, z_x, z_y)
    for i in 1:N do /* compute distance matrices                      */
        /* remember to exclude sample points used as centre
           points prior to computation                                */
        dx ← ‖X_i − z_x‖
        dy ← ‖Y_i − z_y‖
        D_x[i] ← dx
        D_y[i] ← dy
    end
    /* apply univariate test to distance matrices                    */
    if test = Kolmogorov-Smirnov then
        /* T is the largest distance between edf of D_x and D_y
           */
        T, P = scipy.stats.kstest(D_x, D_y)
    end
    else if test = Cramer-Von Mises then
        T, P = scipy.stats.cramervonmises_2samp(D_x, D_y)
    end
end
```