**Exercise Two**

The algorithm I used for solve this problem have this code it’s complexity in term of big(O) is this:

String str[] = line.split(" "); // complexity = 1

        int arrl = str.length; // complexity = 1

        String getStr = ""; // complexity = 1

        if (arrl % 3 == 0) { // complexity = 1

            for (int i = 0; i < arrl; i += 3) { // N/3

                String w[] = { str[i], str[i + 1], str[i + 2] };// complexity = 1

                // finding shortest word and storing in array

                for (int k = 0; k < 3; k++) { // complexity = 3 ^ (3-1)

                    for (int l = k + 1; l < 3; l++) { // complexity = 3

                        String ks = w[k]; // complexity = 1

                        int kl = ks.length(); // complexity = 1

                        String ls = w[l]; // complexity = 1

                        int ll = ls.length(); // complexity = 1

                        if (kl >= ll) { // complexity = 1

                            String temp = w[k]; // complexity = 1

                            w[k] = w[l]; // complexity = 1

                            w[l] = temp; // complexity = 1

                        }

                    }

                }

                getStr += w[0] + " "; // complexity = 1

            }

        }

        return getStr; // complexity = 1

**ANSWER:**

Big(O) = 1+ 1 + 1 + 1+ N/3 ^ 3^2 ^3 + 10

= N \* 729 + 14

14 is constant can be ignore

So,

Big(O) for this algorithm is: 729N.