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### CMPE 494 Assignment-1 Report

Followings are example inputs and output of Levenshtein and Damerau-Levenshtein algorithms.

**The First 3 are Levenshtein examples; The Last 3 are Damerau-Levenshtein examples:**

```
Kayacan-MacBook-Pro:cmpe kayacan$ ./Levenshtein
product
provide
Total number of moves: 4

0 1 2 3 4 5 6
1 0 1 2 3 4 5
2 1 0 1 2 3 4
3 2 1 1 2 2 3
4 3 2 2 2 3 3
5 4 3 3 3 3 4
6 5 4 4 4 4 4

MOVES:
product
Replace: t with e
produce
Replace: c with d
produde
Replace: u with i
prodide
Replace: d with v
provide
```

```
Kayacan-MacBook-Pro:cmpe kayacan$ ./Levenshtein
asdas
asfdasfdsfa
Total number of moves: 6

0 1 2 3 4 5 6 7 8 9 10
1 0 1 2 3 4 5 6 7 8 9
2 1 1 1 2 3 4 5 6 7 8
3 2 2 2 1 2 3 4 5 6 7
4 3 3 3 2 1 2 3 4 5 6

MOVES:
asdas
Insert: a
asdaas
Insert: f
asdafas
Insert: d
asddasas
Insert: f
asdfdasas
Insert: s
asdsfdasas
Insert: f
afsdafdasas
```

```
Kayacan-MacBook-Pro:cmpe kayacan$ ./Levenshtein
kayacanvesek
kaya
Total number of moves: 8
```

```
0 1 2 3
1 0 1 2
2 1 0 1
3 2 1 0
4 3 2 1
5 4 3 2
6 5 4 3
7 6 5 4
8 7 6 5
9 8 7 6
10 9 8 7
11 10 9 8
```

```
MOVES:
kayacanvesek
Remove: k
kayacanvese
Remove: e
kayacanves
Remove: s
kayacanve
Remove: e
kayacnv
Remove: v
kayacan
Remove: n
kayaca
Remove: c
kayaa
Remove: a
kaya
```

```
Kayacan-MacBook-Pro:cmpe kayacan$ ./Damerau-Levenshtein
assingmetn
assignment
Total number of moves: 2
```

```
0 1 2 3 4 5 6 7 8 9
1 0 1 2 3 4 5 6 7 8
2 1 0 1 2 3 4 5 6 7
3 2 1 0 1 2 3 4 5 6
4 3 2 1 1 1 2 3 4 5
5 4 3 2 1 1 2 3 4 5
6 5 4 3 2 2 1 2 3 4
7 6 5 4 3 3 2 1 2 3
8 7 6 5 4 4 3 2 2 2
9 8 7 6 5 4 4 3 2 2
```

```
MOVES:
assingmetn
Rotate n and t
assingmetn
Rotate g and n
assingmetn
```

```
assignmeth
Kayacan-MacBook-Pro:cmpe kayacan$ ./Damerau-Levenshtein
goooogle.com
facebook.com
Total number of moves: 8

1 2 3 4 5 6 7 8 9 10 11 12
2 2 3 4 5 5 6 7 8 9 10 11
3 3 3 4 5 5 5 6 7 8 9 10
4 4 4 4 5 5 5 6 7 8 8 9
5 5 5 5 5 6 6 6 7 8 9 9
6 6 6 6 6 6 7 7 7 8 9 10
7 7 7 6 7 7 7 8 8 8 9 10
8 8 8 7 7 8 8 8 8 9 9 10
9 9 8 8 8 8 9 9 9 8 9 10
10 10 9 9 9 8 8 9 10 9 8 9
11 11 10 10 10 9 9 9 10 10 9 8

MOVES:
goooogle.com
Replace: e with k
goooglk.com
Replace: l with o
gooogok.com
Replace: g with o
gooooook.com
Replace: o with b
goobook.com
Replace: o with e
goebook.com
Replace: o with c
gcebook.com
Replace: g with a
acebook.com
Insert: f
facebook.com
```

```
Kayacan-MacBook-Pro:cmpe kayacan$ ./Damerau-Levenshtein
```

**abababababababa**

**bababababababababa**

Total number of moves: 5

```

1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
1 1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
2 1 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
3 2 1 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
4 3 2 1 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
5 4 3 2 1 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
6 5 4 3 2 1 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
7 6 5 4 3 2 1 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14
8 7 6 5 4 3 2 1 2 1 2 3 4 5 6 7 8 9 10 11 12 13
9 8 7 6 5 4 3 2 1 2 1 2 3 4 5 6 7 8 9 10 11 12
10 9 8 7 6 5 4 3 2 1 2 1 2 3 4 5 6 7 8 9 10 11
11 10 9 8 7 6 5 4 3 2 1 2 1 2 3 4 5 6 7 8 9 10
12 11 10 9 8 7 6 5 4 3 2 1 2 1 2 3 4 5 6 7 8 9
13 12 11 10 9 8 7 6 5 4 3 2 1 2 1 2 3 4 5 6 7 8
14 13 12 11 10 9 8 7 6 5 4 3 2 1 2 1 2 3 4 5 6 7
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 2 1 2 3 4 5 6
16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 2 1 2 3 4 5

```

## MOVES:

**ababababababababa**

Insert: b

**babababababababa**

Insert: a

**ababababababababa**

Insert: b

**bababababababababa**

Insert: a

**ababababababababababa**

Insert: b

**babababababababababa**

Kayacan MacBook Pro'leme kayacant