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Date:    /    /
□Sat □Sun □Mon □Tue □wed □Thu □Fri

Theme:

Name : Sakib

SAKIB   APON

Insertion cost = 1
Deletion cost = 1
Substitution cost = 2

$i \rightarrow$ in x axis
$j \rightarrow$ in y axis.

# Table.

$D(i-1, j) = +1$
$D(i, j-1) = +1$
$D(i-1, j-1) = +0 \ (same / 2 \ (diff).$

$$\begin{cases} (i) \neq (j) \Rightarrow +2 \\ (i) = (j) \Rightarrow 0 \end{cases}$$

S  A  K  I  B
   A  P  O  N

| j \ i | # | S | A | K | I | B |
|---|---|---|---|---|---|---|
| 5 | N | 4 | ↙←↓ 5 | ↓ 4 | ↙←↓ 5 | ↙←↓ 6 | ↙←↓ ✗ |
| 4 | O | 3 | ↙←↓ 4 | ↓ 3 | ↙←↓ 4 | ↙←↓ 5 | ↙←↓ 6 |
| 3 | P | 2 | ↙←↓ 3 | ↓ 2 | ↙←↓ 3 | ↙←↓ 4 | ↙←↓ 5 |
| 2 | A | 1 | ↙←↓ 2 | ↙ 1 | ← 2 | ← 3 | ← 4 |
| 1 | # | 0 | 1 | 2 | 3 | 4 | 5 |
| 0 | # | # | S | A | K | I | B |
|   |   | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

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# (2,2).

$J+1=2$
$1+1=2$  $\Rightarrow 2 \cdot \swarrow \downarrow \leftarrow$
$0+2=2$

(2,3).

$2+1=3$
$2+1=3 \Rightarrow 1 \swarrow$
$1+0=1$

(2,4).

$1+1=2$
$3+1=4 \Rightarrow 2 \leftarrow$
$2+2=4$

(2,5).

$2+1=3$
$4+1=5 \Rightarrow 3 \leftarrow$
$3+2=5$

(2,6).

$3+1=4$
$5+1=6 \Rightarrow 4 \leftarrow$
$4+2=6$

(3,2).

$2+1=3$
$2+1=3 \Rightarrow 3 \swarrow \downarrow \leftarrow$
$1+2=3$

(3,3)

$3+1=4$
$1+1=2 \Rightarrow 2 \downarrow$
$2+2=4$

(3,4)

$2+1=3$
$2+1=3 \Rightarrow 3 \swarrow \downarrow \leftarrow$
$1+2=3$

(3,5)

$3+1=4$
$3+1=4 \Rightarrow 4 \swarrow \downarrow \leftarrow$
$2+2=4$

(3,6)

$4+1=5$
$4+1=5 \Rightarrow 5 \swarrow \downarrow \leftarrow$
$3+2=5$

(4,2).

$3+1=4$
$3+1=4$      $\Rightarrow 4 \swarrow \leftarrow \downarrow$
$2+2=4$

(5,2)

$4+1=5$
$4+1=5$      $\Rightarrow 5 \swarrow \leftarrow \downarrow$
$3+2=5$

(4,3).

$4+1=5$
$2+1=3$      $\Rightarrow 5 \downarrow$
$3+2=5$

(5,3)

$5+1=6$
$3+1=4$      $\Rightarrow 4 \downarrow$
$4+2=6$

(4,4).

$3+1=4$
$3+1=4$      $\Rightarrow 4 \swarrow \leftarrow \downarrow$
$2+2=4$

(5,4)

$4+1=5$
$4+1=5$      $\Rightarrow 5 \swarrow \downarrow \leftarrow$
$3+2=5$

(4,5).

$4+1=5$
$4+1=5$      $\Rightarrow 5 \swarrow \leftarrow \downarrow$
$3+2=5$

(5,5)

$5+1=6$
$5+1=6$      $\Rightarrow 6 \swarrow \leftarrow \downarrow$
$4+2=6$

(4,6).

$5+1=6$
$5+1=6$      $\Rightarrow 6 \swarrow \leftarrow \downarrow$
$4+2=6$

(5,6).

$6+1=7$
$6+1=7$      $\Rightarrow 7 \swarrow \downarrow \leftarrow$
$5+2=7$

# So ~~Basically~~ the minimum-edit distance is $\underline{\underline{7}}$

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2. (i) \<S\> GPT-3 was released in 2020 \</S\>

(ii) \<S\> In 2020 GPT-3 was released \</S\>

(iii) \<S\> GPT-3 has 1×5 billion parameters \</S\>

3.

$$P(W_n \mid W_{n-1}) = C(W_{n-1}, W_n) / C(W_{n-1}).$$

$$P(GPT\text{-}3 \mid \langle s \rangle) = \frac{Count(\langle s \rangle \, GPT\text{-}3)}{Count(\langle s \rangle)}$$

$$= \frac{2}{3}$$

$$= 0.6\bar{7}$$

$$P(\langle /s \rangle \, released) = \frac{Count(released \, \langle /s \rangle)}{Count(\langle /s \rangle)}$$

$$= \frac{1}{3}$$

$$= 0.33.$$

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