CS324 NLP

Mid-Semester Examination

Roll No - 119CS012 Name - Bhagya Vinod Rana

Semester - VI Sem (3rd Yr) Date - 7-March-2022

1> ~~$P(W_{1:5})$ for words starting W_1 to W_5~~

3> "mana served delicious cake with chocolates"

1 2 3 4 5 6

✗ ✓

W_p = "delicious W_q = "cake"

Outside: $\alpha_{NP}(3,4)$ = [$P($ maria served, $NP_{3,4}$ with chocolates $)$]

for "delicious cake"

Inside: $\beta_{NP}(3,4)$ = [$P($ delicious cake $|$ $NP_{3,4}$, G $)$]

for "delicious cake"

Ans

1> $P(t_1) = (1) * (0.1) \times (0.7) \times (0.04) \times (0.4) * (0.18) \times (1.0) * (1) * (1) * (0.18)$

$= 3.6288 \times 10^{-5}$

$P(t_2) = 1 * (0.1) \times (0.3) \times (0.7) \times (0.04) * (0.18) * (1) * (1) * (0.18)$

$= 2.7216 \times 10^{-5}$

$\therefore P(W_{15}) = P(t_1) + P(t_2)$

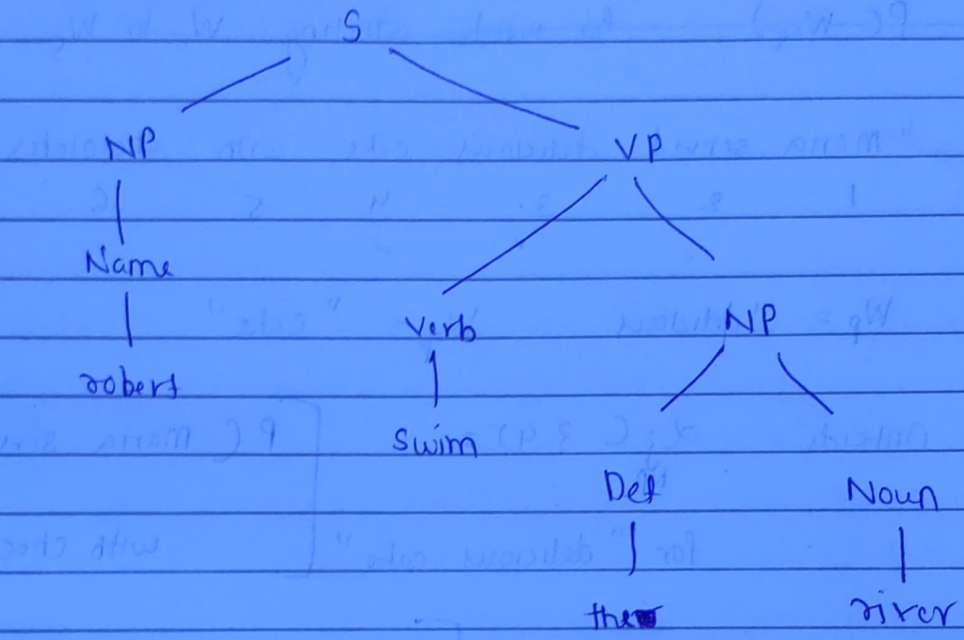
$= [6.3504 \times 10^{-5}]$

Ans: $[6.3504 * 10^{-5}]$

U19CS012

2)

5) "robert swim the river"



2.)

$S_1 \rightarrow AA\ BB_1 \rightarrow$

$BB \rightarrow CC\ FF \Rightarrow \quad 0.4 \times 0.6 = \boxed{0.24}$

$AA \rightarrow HH\ FF \rightarrow \quad 0.3 \times 0.6 = \boxed{0.18}$

$BB_1 \rightarrow EG\ BB \rightarrow \quad 0.6 \times 0.24 = \boxed{0.144}$

$BB_2 \rightarrow EG\ AA \rightarrow \quad 0.6 \times 0.18 = \boxed{0.108}$

$S \rightarrow AA\ BB_1 \quad 0.024 * 0.144 = \boxed{3.456 \times 10^{-3}}$

$S \rightarrow AA\ BB_2 \quad 0.024 * 0.108 = \boxed{2.592 \times 10^{-3}}$

vision