|         | Anish Soundera 9th November 2020 Class Fun<br>DTV/2K16/ME/13 9th November 2020 Page No. |  |  |  |  |  |
|---------|---|--|--|--|--|--|
|         | NLP Class Assignment  |  |  |  |  |  |
|         | 4MM Models  |  |  |  |  |  |
|         | Midden Markovian Models   |  |  |  |  |  |
|         |   |  |  |  |  |  |
|         |   |  |  |  |  |  |
| •       | Pobolitity of output Sentence :-  |  |  |  |  |  |
|         | $P(0) = \sum_{\alpha} P(0,\alpha) = \sum_{\alpha} P(0 \alpha)P(\alpha)$                 |  |  |  |  |  |
|         |   |  |  |  |  |  |
|         | Toit pad will   |  |  |  |  |  |
|         | Joint Probability:  |  |  |  |  |  |
| -       | P(0 Q) = 0(0) = 0 P(0)  |  |  |  |  |  |
|         | P(0,0) = P(0 0)P(0) = P(0 1 1) P(1 1 1)   |  |  |  |  |  |
| 19      |   |  |  |  |  |  |
|         | Sentence 1: The old woman ate   |  |  |  |  |  |
| <u></u> |   |  |  |  |  |  |
| 45      | $P(0) = \sum_{\alpha} P(0, \alpha)$   |  |  |  |  |  |
|         | . %   |  |  |  |  |  |
|         |   |  |  |  |  |  |
|         | P(o) = P(the old woman ate), Ret Adj Noun Vest) +                                       |  |  |  |  |  |
| }       | The old money ate, Deb Adi Noun Noun) -   |  |  |  |  |  |
| Y.      | Pl the old woman ate Det Det Det Det ) -  |  |  |  |  |  |
| 1       |   |  |  |  |  |  |
|         | barring all except one, every probability   |  |  |  |  |  |
|         | barring all except one, every probability   |  |  |  |  |  |
| la la   | will be 0   |  |  |  |  |  |
|         | P/0 - P/11 11 + D. D.   |  |  |  |  |  |
| š.      | P(O) = P(the std morning ate Det Adj Noun vers) +0                                      |  |  |  |  |  |
|         | = Plthe old woman ate   Det Adj Noun Joss) P( Det Ads                                   |  |  |  |  |  |
|         | Davn vers)  |  |  |  |  |  |
|         |   |  |  |  |  |  |

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|   | Page No.   |
|---|--|
|   | P (the [Ret] P(old Adi) P(noman   Num) P (At (Num) P (Det 145>) P(Adi) [Det) P(Noun   Adi) P(Next   Noun)              |
|   | (o.7) (o.4) (o.2) (o.7) (o.7) (o.7)  |
|   | = 0-00526848   |
| - | 5.268 40-3   |
| + |  |
| , | Sentence 2: The Young Child Slept  |
| + | P(0) = \( \frac{2}{9}(0, \text{Q})   |
|   | 31   |
| + | = P( the young child slipt, Det Ady Num Vers) +  |
|   | P(O, 0) = 0 + O + Det Ady Noun Verb  |
|   | P(O)= P(O, A) where O = Det Ady Noun Verb  |
|   | Z P ( the young Wild Slipt   Det Ads News Verst P ( Det Ads News Verst)  |
|   | Blue In a Dollar of Delivery Plant Version   |
| + | P(the Dets P(young   Adj) P(wild   Noum) P(slept   Verb) P(>5>   Re Det (<5>) P(Adj   Dets P(Noum   Adj) P(Verb) Noum) |
|   |  |
| + | (0.7)(0.6)(0.3)(0.5) (0.7)(0.6)(0.7)(0.8)  |
|   | = 0.0148176  |
| - | ~ 1.481 ×10-2  |
| ( | (the young dild slept) = 1.481 × 10-2  |

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| 14ge 10.  |
|---|
| P(the young child slept) > P(the old woman ate)                                       |
| me ou woman ate)  |
| Mence the second so + 1/2   |
| Mence the second sentence "The pung child slept" will be chosen with more likelihood. |
| with mode Welhood.  |
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