K. J. Somaiya College of Engineering, Mumbai-77
(A Constituent College of Somaiya Vidyavihar University)
Department of Computer Engineering

Batch: H3 - 3	**Roll No.: 16014022050**
Experiment No. 7	

TITLE : To perform VLab on NLP

AIM: Vlab on NLP

Expected OUTCOME of Experiment:

CO5: Apply data analytics in the field of Health care.

Books/ Journals/ Websites referred:

Students have to list.

Pre Lab/ Prior Concepts:

Students should have a basic understanding of word analysis.

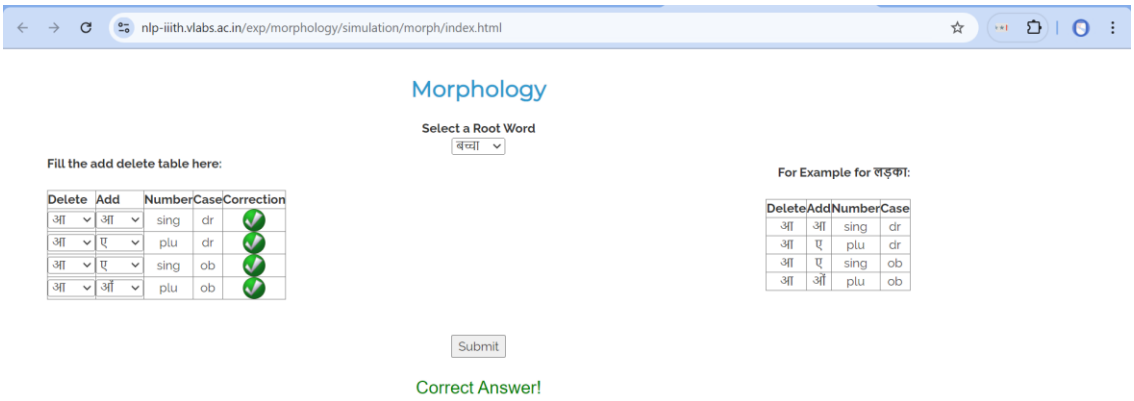
Procedure:

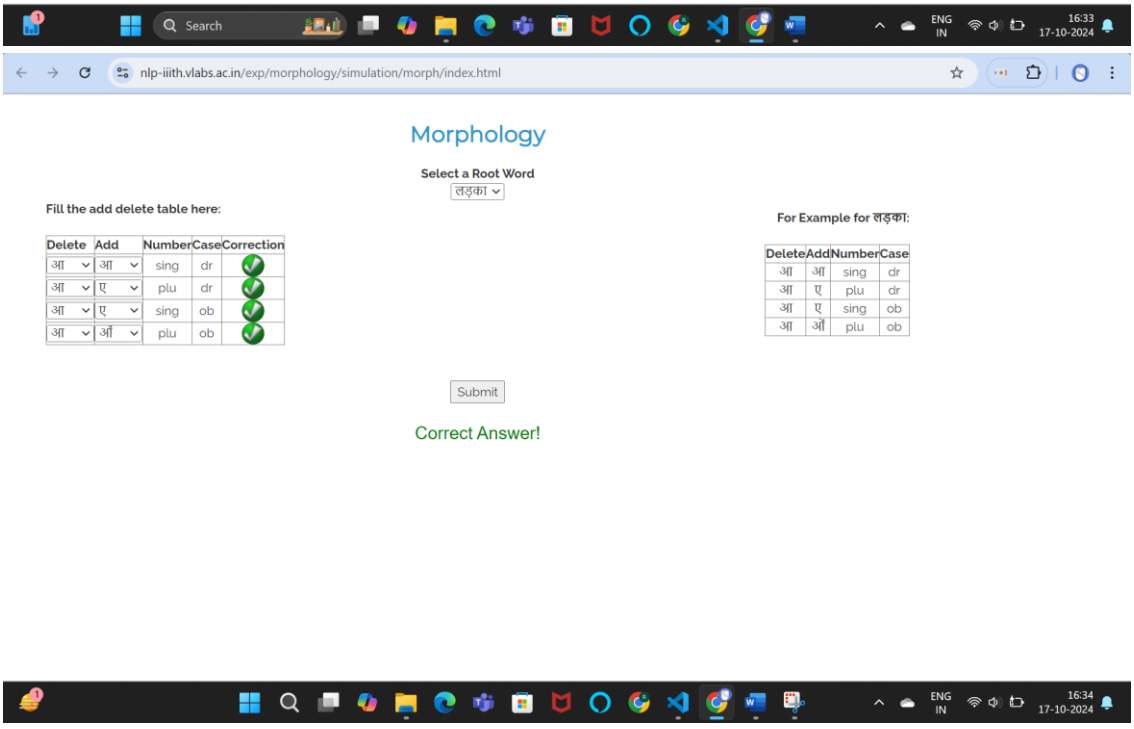
Vlab Name: Computer Science and Engineering -Natural Language Processing-Word Generation

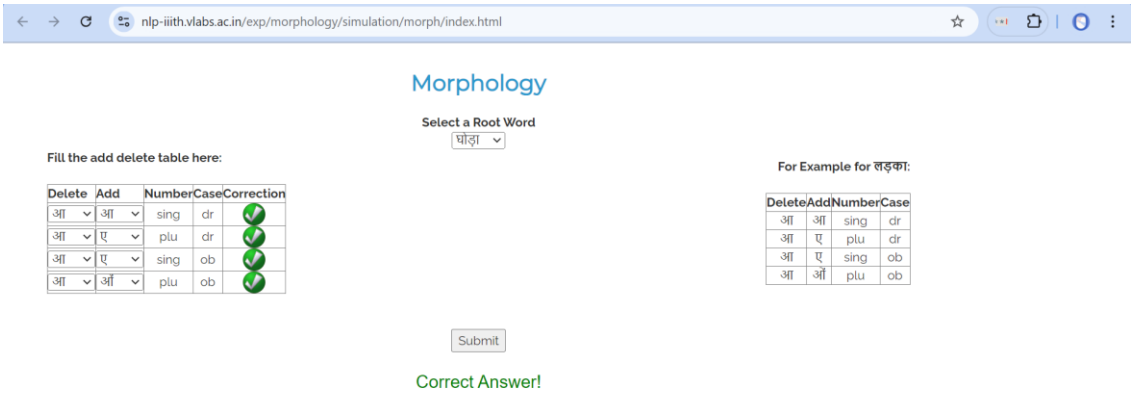
Vlab Link: https://nlp-iiith.vlabs.ac.in/exp/morphology/

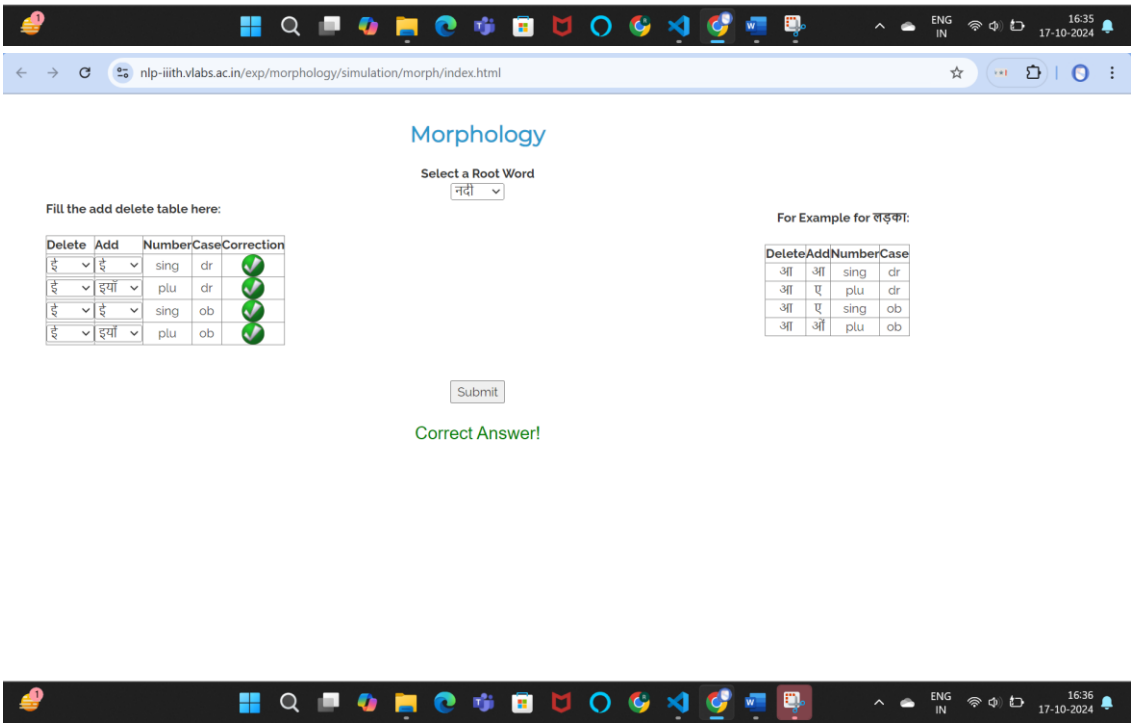
Students should paste the screenshots of Vlab execution and feedback submission.

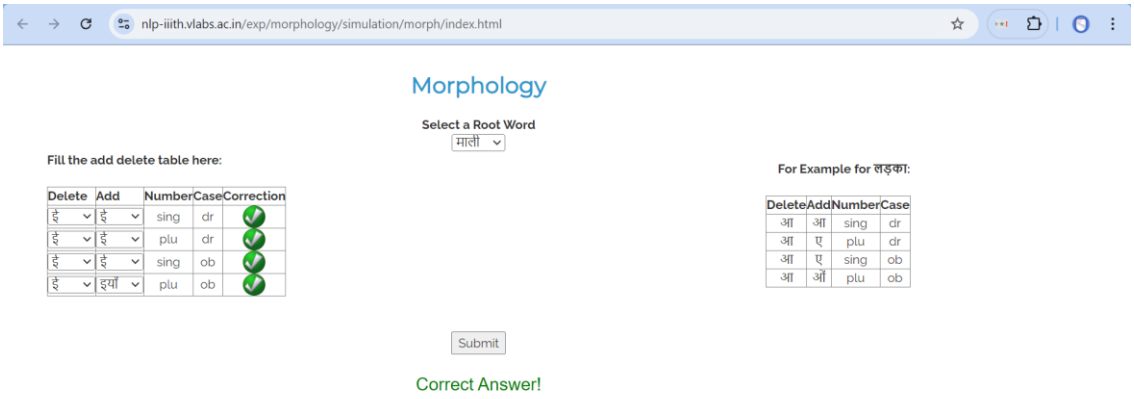
Implementation details:






nlp-iiith.vlabs.ac.in/exp/morphology/simulation/morph/index.html
Morphology
Select a Root Word
घोड़ा
Fill the add delete table here:
Delete Add Number Case Correction
आ आ sing dr
आ ए plu dr
आ ए sing ob
आ ओं plu ob
For Example for लड़का:
Delete Add Number Case
आ आ sing dr
आ ए plu dr
आ ए sing ob
आ ओं plu ob
Submit
Correct Answer!


nlp-iiith.vlabs.ac.in/exp/morphology/simulation/morph/index.html
Morphology
Select a Root Word
नदी
Fill the add delete table here:
Delete Add Number Case Correction
ई ई sing dr
ई इयाँ plu dr
ई ई sing ob
ई इयाँ plu ob
For Example for लड़का:
Delete Add Number Case
आ आ sing dr
आ ए plu dr
आ ए sing ob
आ ओं plu ob
Submit
Correct Answer!


nlp-iiith.vlabs.ac.in/exp/morphology/simulation/morph/index.html
Morphology
Select a Root Word
माली
Fill the add delete table here:
Delete Add Number Case Correction
ई इ sing dr
ई ई plu dr
ई इ sing ob
ई इयाँ plu ob
For Example for लड़का:
Delete Add Number Case
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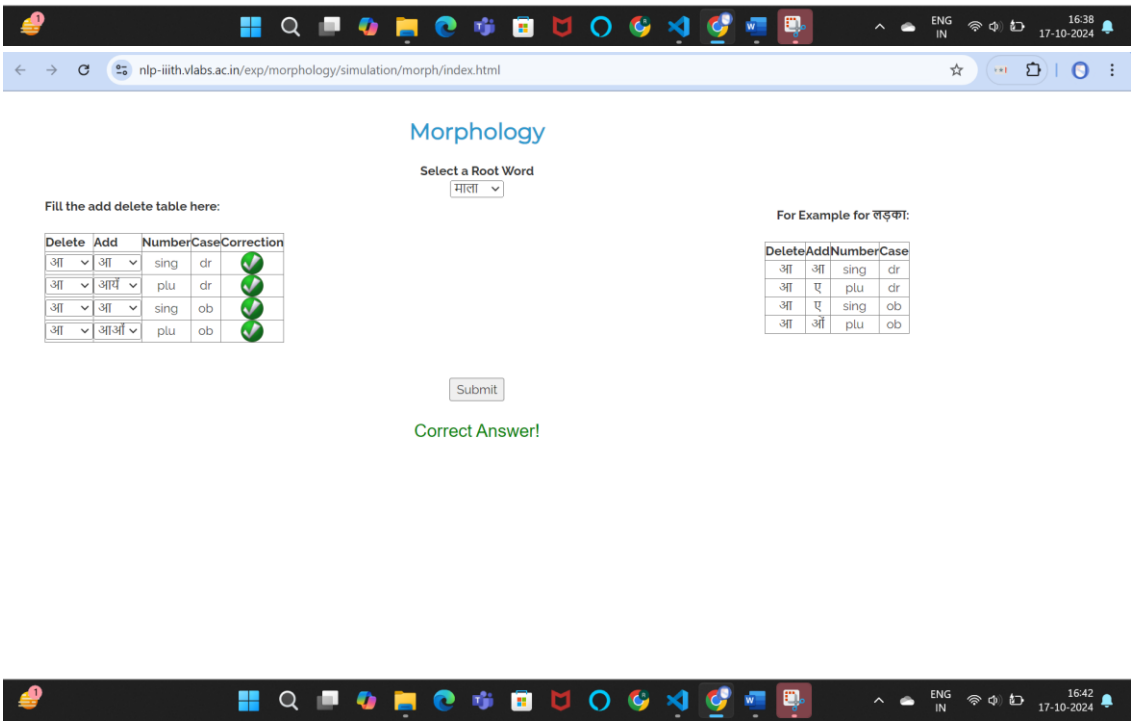
आ ए plu dr
आ ए sing ob
आ ओं plu ob
Submit
Correct Answer!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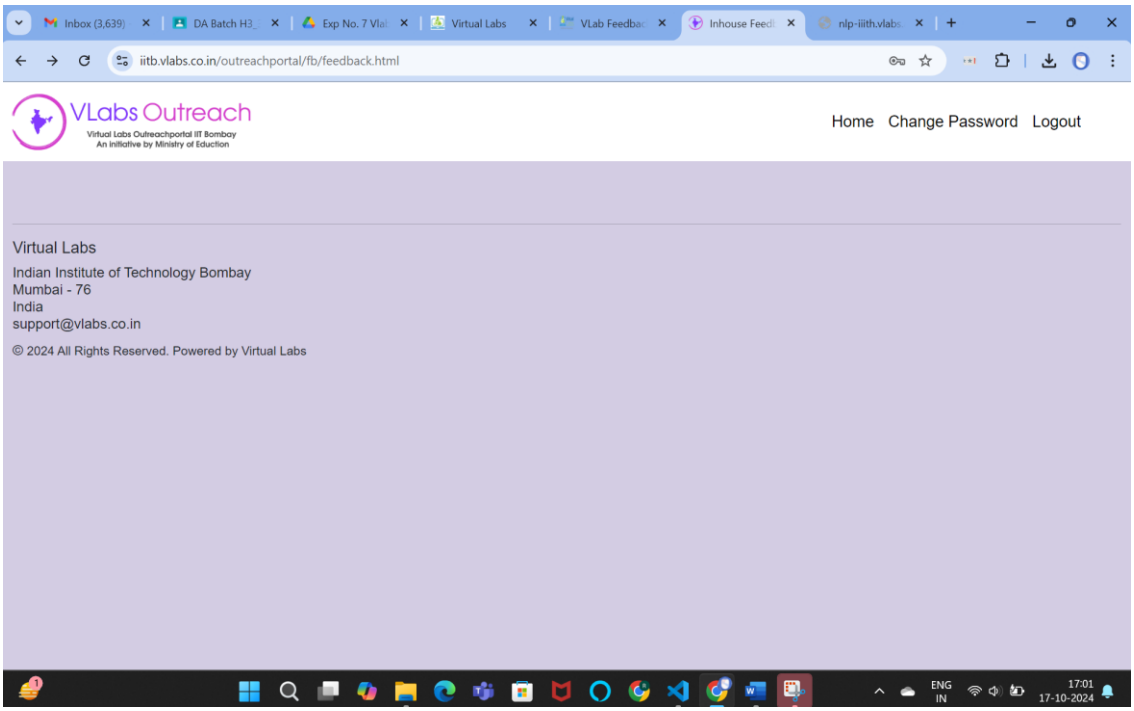
Correct Answer!

Feedback:



Date: 17/10/24 **Signature of faculty in-charge**

Post Lab Descriptive Questions:

Q.1 Explain various applications of NLP.

Answer:
NLP (Natural Language Processing) has a wide range of applications:

1. **Sentiment Analysis**: Detects positive, negative, or neutral sentiment in text (e.g., reviews, social media).
2. **Machine Translation**: Translates languages (e.g., Google Translate).
3. **Chatbots/Virtual Assistants**: Enables conversation with AI (e.g., Siri, Alexa).
4. **Text Summarization**: Creates concise summaries of large texts.
5. **Speech Recognition**: Converts spoken language into text (e.g., voice commands).
6. **Named Entity Recognition**: Identifies people, places, organizations in text.
7. **Text Generation**: Produces text based on input (e.g., content creation).
8. **OCR**: Extracts text from images or scanned documents.
9. **Spam Detection**: Filters unwanted messages.
10. **Autocomplete & Grammar Check**: Corrects and suggests text input.

NLP is used in finance, healthcare, education, and more.

Q.2 What is the significance of Natural Language Processing (NLP) in modern technology, and how does it impact various industries?

Answer:
Natural Language Processing (NLP) plays a pivotal role in modern technology by allowing computers to process, understand, and respond to human language. It powers everyday tools like voice assistants (Siri, Alexa), chatbots, and machine translation services (Google Translate), making interactions with technology more natural and accessible.

Significance in Various Industries:

1. **Customer Service**: NLP-driven chatbots and virtual assistants automate responses and provide 24/7 customer support, reducing the need for human intervention.
2. **Healthcare**: NLP helps in analyzing medical records, extracting key information from research papers, and even powering diagnostic tools through sentiment and language analysis.
3. **Finance**: NLP is used to track market sentiment by analyzing news articles, social media posts, and financial reports, aiding in better decision-making and risk assessment.
4. **Education**: In education, NLP enables personalized learning experiences, automates grading, and provides insights from academic texts and research.
5. **E-commerce**: NLP enhances product recommendations, search functionalities, and customer feedback analysis, improving user experience and business efficiency.

Overall, NLP transforms industries by automating data processing, improving decision-making, and enhancing user interaction with technology.