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In [15]: import spacy
import random

##Load spacy Model
## Load the english model from spacy

nlp=spacy.load("en_core_web_sm")

## process the text chapter using spacy

def mca_qn(chapter:str,num_questions:int):
    doc=nlp(chapter)
    ## Define a mcq generation function

    def generate_mcq(question,correct_answers,other_options,num_options=4):
        options=correct_answers+other_options
        random.shuffle(options)

        mcq={
            "question":question,
            "options":options,
            "correct_answers":correct_answers
        }

        return mcq
    ## Create the questions
    def generate_questions():
        ## randomly select the sentence from content
        sentence=random.choice(list(doc.sents))
        ## randomly get a non_pronounciation words from sentence as blank word
        blank_word= random.choice([token for token in sentence if not token.is_punct])

        ## replace the blank word to _____

        qn_text=sentence.text.replace(blank_word.text,"_____")

        correct_answers=[blank_word.text]

        ## other possible answers

        other_options=[token.text for token in doc if token .is_alpha and token.text !=correct_answers[0]]
        ## Generate one or two correct options

        num_correct_options=random.randint(1,2)

        correct_answers.extend(random.sample(other_options,num_correct_options))

        ## incorrect answers

        num_other_options=min(4-num_correct_options,len(other_options))

        other_options=random.sample(other_options,num_other_options)

        mcq=generate_mcq(qn_text,correct_answers,other_options)

        return mcq
    questions=[generate_questions() for _ in range(num_questions)]
    ### format questions,options and correct_answers into strings

    ## create a empty list to store the questions
    mca_questions=[]

    for i,question in enumerate(questions,start=1):

        ## create a string for question no and text
        question_str= f"Q{i}: {question['question']}\n"

        options_str=""
        ## create a option str to store an option
        for j,option in enumerate(question["options"]):

            options_str+=f"{j+1}.{option}\n"

        correct_options_formatted = " & ".join([f"({chr(97+question['options'].index(ans)))" for ans in question['correct_answers']])
        correct_options_str = f"Correct Options: {correct_options_formatted}"

        mca_question = f"{question_str}{options_str}\n{correct_options_str}\n"

        mca_questions.append(mca_question)
    return mca_questions
# User input for the paragraph and number of questions
chapter = input("Enter the paragraph: ")
num_questions = int(input("Enter the number of questions: "))

# Generate MCQs and print each question along with options and correct answers
mca_questions = mca_qn(chapter, num_questions)
for question in mca_questions:
    print(question)
```

Enter the paragraph: On 12 August 1765, the Mughal emperor appointed the East India Company as the Diwan of Bengal. The actual event most probably took place in Robert Clive’s tent, with a few Englishmen and Indians as witnesses. But in the painting above, the event is shown as a majestic occasion, taking place in a grand setting. The painter was commissioned by Clive to record the memorable events in Clive’s life. The grant of Diwani clearly was one such event in British imagination. As Diwan , the Company became the chief financial administrator of the territory under its control. Now it had to think of administering the land and organising its revenue resources.This had to be done in a way that could yield enough revenue to meet the growing expenses of the company. A trading company had also to ensure that it could buy the products it needed and sell what it wanted.Over the years, the Company also learnt that it had to move with some caution. Being an alien power, it needed to pacify those who in the past had ruled the countryside, and enjoyed authority and prestige. Those who had held local power had to be controlled but they could not be entirely eliminated. How was this to be done? In this chapter we will see how the Company came to colonise the countryside, organise revenue resources, redefine the rights of people, and produce the crops it wanted.

Enter the number of questions: 5
Q1: Those who had held local power had to be _____ but they could not be entirely eliminated.
1.above
2.controlled
3.appointed
4.commissioned
5.In

Correct Options: (b) & (c) & (d)

Q2: The grant of Diwani clearly was one such event _____ British imagination.
1.painting
2.to
3.under
4.in
5.those

Correct Options: (d) & (a)

Q3: The painter was commissioned by Clive to record the memorable events in Clive_____ life.
1.held
2.emperor
3.’s
4.this
5.colonise

Correct Options: (c) & (b)

Q4: Those _____ had held local power had to be controlled but they could not be entirely eliminated.
1.and
2.to
3.to
4.to
5.who

Correct Options: (e) & (b) & (a)

Q5: Those who had held local power had to be controlled but they could _____ be entirely eliminated.
1.probably
2.not
3.it
4.administering
5.the

Correct Options: (b) & (c)

Conclusion

In []: This program uses Spacy to generate multiple-choice questions with multiple correct answers from a given paragraph, making it a powerful tool for creating engaging assessments.

In []: