

**NLP EXP-7 Dikshant Buwa CSE-DS RollNo-4 VCET**

```
import spacy
```

Load the spaCy language model

```
nlp = spacy.load("en_core_web_sm")
```

Sample text input

```
text = "Apple Inc. is a company based in Cupertino, California. John works for Google in Mountain View."
```

Process the text using spaCy

```
import spacy
```

```
# Load the spaCy language model
```

```
nlp = spacy.load("en_core_web_sm")
```

```
# Sample text input
```

```
text = "Apple Inc. is a company based in Cupertino, California. John works for Google in Mountain View."
```

```
# Process the text using spaCy
```

```
doc = nlp(text)
```

```
# Initialize variables to store named entities
```

```
named_entities = []
```

```
# Define a function to extract named entities
```

```
def extract_named_entities(doc):
```

```
    entities = []
```

```
    current_entity = None
```

```
    for token in doc:
```

```
        if token.ent_type_:
```

```
            if current_entity and token.ent_type_ == current_entity[1]:
```

```
                current_entity = (current_entity[0] + " " + token.text, token.ent_type_)
```

```
            else:
```

```
                if current_entity:
```

```
                    entities.append(current_entity)
```

```
                current_entity = (token.text, token.ent_type_)
```

```
        else:
```

```
            if current_entity:
```

```
                entities.append(current_entity)
```

```
            current_entity = None
```

```
    if current_entity:
```

```
        entities.append(current_entity)
```

```
    return entities
```

```
# Extract named entities
```

```
named_entities = extract_named_entities(doc)
```

```
# Print the named entities
```

```
for entity, label in named_entities:
```

```
    print(f"Entity: {entity}, Label: {label}")
```



```
Entity: Apple Inc., Label: ORG
```

```
Entity: Cupertino, Label: GPE
```

```
Entity: California, Label: GPE
```

```
Entity: John, Label: PERSON
```

```
Entity: Google, Label: ORG
```

```
Entity: Mountain View, Label: GPE
```

