1. **Write a program to demonstrate how to access WordNet, a lexical database, to retrieve synsets and explore word meanings in python.**

**Aim:**

To demonstrate how to access WordNet to retrieve synsets and explore word meanings in python.

**Code:**

import nltk

from nltk.corpus import wordnet

# Ensure WordNet is downloaded

nltk.download('wordnet')

# Take user input for a word

word = input("Enter a word to retrieve its synsets and meanings: ")

# Retrieve synsets

synsets = wordnet.synsets(word)

# Display synsets and their meanings

if synsets:

print(f"\nSynsets and meanings for '{word}':")

for synset in synsets:

print(f"{synset.name()}: {synset.definition()}")

if synset.examples():

print(f" Examples: {', '.join(synset.examples())}")

else:

print("No synsets found for the entered word.")

**Input:**

Enter a word to retrieve its synsets and meanings: happy

**Output:**

Synsets and meanings for 'happy':

happy.a.01: enjoying or showing or marked by joy or pleasure

Examples: a happy smile, spent many happy days on the beach, a happy marriage

felicitous.s.02: marked by good fortune

Examples: a felicitous life, a happy outcome

glad.s.02: eagerly disposed to act or to be of service

Examples: glad to help

happy.s.04: well expressed and to the point

Examples: a happy turn of phrase, a few well-chosen words

