Find Similar Words Using Word Embeddings

1. **Task:**
   Load pre-trained word embeddings and take any input word from the user. Return top 5 similar words.

Solution:

```
!pip install gensim

from gensim.models import KeyedVectors
from gensim.downloader import load


model = load("glove-wiki-gigaword-50")
print("Model Loaded Successfully!")

def find_similar_words(word, topn=5):
    try:
        similar = model.most_similar(word, topn=topn)
        return similar
    except KeyError:
        return f"'{word}' not found in vocabulary."
word = input("Enter a word: ")
result = find_similar_words(word)

print("\nTop similar words:")
if isinstance(result, str):
    print(result)
else:
    for w, score in result:
        print(f"{w}  --> similarity: {score:.4f}")
```

2. **Task:**

Build a small word embedding model using FastText and use it to find similar words for any given input word, even if the word was not present in the training dataset.

```
!pip install gensim
```

```
from gensim.models import FastText

sentences = [
    ["i", "love", "machine", "learning"],
    ["word", "embeddings", "are", "useful"],
    ["fasttext", "handles", "unknown", "words"]
]

model = FastText(sentences, vector_size=50, min_count=1)
model.wv.most_similar("learning")
```