

1st

Model Explore

```
!pip install -q transformers accelerate bitsandbytes huggingface_hub
```

```
61.3/61.3 MB 16.4 MB/s eta
0:00:00

from huggingface_hub import notebook_login
from transformers import AutoTokenizer, AutoModelForCausalLM
import torch

notebook_login()

{"model_id": "85cc1fab4bd34b66bf4921f2da18e731", "version_major": 2, "version_minor": 0}
```

more model

```
torch.cuda.is_available()

True

model_id = "meta-llama/Llama-2-7b-hf"

# Load tokenizer
tokenizer = AutoTokenizer.from_pretrained(model_id)

/usr/local/lib/python3.12/dist-packages/huggingface_hub/utils/_auth.py:94: UserWarning:
The secret `HF_TOKEN` does not exist in your Colab secrets.
To authenticate with the Hugging Face Hub, create a token in your
settings tab (https://huggingface.co/settings/tokens), set it as
secret in your Google Colab and restart your session.
You will be able to reuse this secret in all of your notebooks.
Please note that authentication is recommended but still optional to
access public models or datasets.
  warnings.warn(

{"model_id": "71b207e8f6194081932e0c7b6a2c782d", "version_major": 2, "version_minor": 0}

{"model_id": "504c7614f5d948fa8d5bff02ccf9d318", "version_major": 2, "version_minor": 0}
```

```
{"model_id": "f22f4a54efef4bb395780ccf1ec09c4e", "version_major": 2, "version_minor": 0}
```

```
{"model_id": "3b4cd95ec80a4b8ab82f8e85a12cbb9f", "version_major": 2, "version_minor": 0}
```

```
if tokenizer.pad_token is None:  
    tokenizer.pad_token = tokenizer.eos_token
```

```
# Load model with 8-bit precision (needs less memory)  
model = AutoModelForCausalLM.from_pretrained(  
    model_id,  
    device_map="auto",  
    load_in_8bit=True, # For lower RAM usage (needs `bitsandbytes`)  
    torch_dtype=torch.float16,  
)
```

```
{"model_id": "8208c13171794353a78bca6cb692b116", "version_major": 2, "version_minor": 0}
```

The `load_in_4bit` and `load_in_8bit` arguments are deprecated and will be removed in the future versions. Please, pass a `BitsAndBytesConfig` object in `quantization_config` argument instead.

```
{"model_id": "d15bf06c4a754fb7b00347433f3f3694", "version_major": 2, "version_minor": 0}
```

```
{"model_id": "ff0a1360eb1c467bb3b86d52bb845f5e", "version_major": 2, "version_minor": 0}
```

```
{"model_id": "3506973434444b608d2ef9cb4600ca0c", "version_major": 2, "version_minor": 0}
```

```
{"model_id": "a1e52c98de8e4bfb9593fb91cc0a2fa6", "version_major": 2, "version_minor": 0}
```

```
{"model_id": "c671735d274b4f6fb93275e21c506aa6", "version_major": 2, "version_minor": 0}
```

```
def answer(prompt):  
    inputs = tokenizer(prompt, return_tensors="pt").to("cuda")  
    # output = model.generate(*inputs, max_new_tokens=200)  
    outputs = model.generate(  
        *inputs,  
        max_new_tokens=150,  
        do_sample=True,  
        temperature=0.7,  
        top_p=0.9,  
        top_k=50,  
        eos_token_id=tokenizer.eos_token_id)  
    # print(tokenizer.decode(outputs[0], skip_special_tokens=True))  
    return tokenizer.decode(outputs[0], skip_special_tokens=True)
```

```

prompt = " I have knee pain which medicine should i take?"
answer(prompt)

{"type": "string"}

prompt = "I have headache which medicine should i take?"
answer(prompt)

{"type": "string"}

```

detection

```

# install embedding library
!pip install -q sentence-transformers

from sentence_transformers import SentenceTransformer, util
import torch

# 10 questions and gold answers
data = [
    {"question": "What is the chemical symbol for water?",
     "standard_answer": "H2O"},
    {"question": "Which planet is known as the Red Planet?",
     "standard_answer": "Mars"},
    {"question": "What is the capital city of France?",
     "standard_answer": "Paris"},
    {"question": "How many continents are there on Earth?",
     "standard_answer": "Seven (Africa, Antarctica, Asia, Europe, North America, Oceania, South America)"},
    {"question": "Who wrote the play 'Romeo and Juliet'?",
     "standard_answer": "William Shakespeare"},
    {"question": "What is the largest mammal in the world?",
     "standard_answer": "The blue whale (Balaenoptera musculus)"},
    {"question": "In what year did the Titanic sink?",
     "standard_answer": "1912"},
    {"question": "What is the value of  $\pi$  (pi) to two decimal places?",
     "standard_answer": "3.14"},
    {"question": "Which element has the atomic number 6?",
     "standard_answer": "Carbon"},
    {"question": "What language is primarily spoken in Brazil?",
     "standard_answer": "Portuguese"},
]

# 2. Load SBERT embedder onto GPU if available
device = 'cuda' if torch.cuda.is_available() else 'cpu'
embedder = SentenceTransformer("all-MiniLM-L6-v2").to(device)

```

```

# --- 3. Define sampling settings (seed + temperature) ---
N = 5
seeds = [42, 43, 44, 45, 46]
temps = [0.5, 0.6, 0.7, 0.8, 0.9]
settings = list(zip(seeds, temps))
all_avg_scores = []
# --- 4. Loop through each Q&A pair ---
for item in data:
    q = item["question"]
    ga = item["standard_answer"]

    # 4a. Generate N answers with different seeds & temperatures
    samples = []
    for seed, temp in settings:
        torch.manual_seed(seed)
        prompt_text = f"Question: {q}\nAnswer:"
        inputs = tokenizer(prompt_text,
            return_tensors="pt").to(device)
        outputs = model.generate(
            **inputs,
            max_new_tokens=150,
            do_sample=True,
            temperature=temp,
            top_p=0.9,
            top_k=50,
            eos_token_id=tokenizer.eos_token_id
        )
        ans = tokenizer.decode(outputs[0],
            skip_special_tokens=True).strip()
        samples.append(ans)

    # 4b. Embed the gold answer and the samples
    gold_emb = embedder.encode(ga,
        convert_to_tensor=True).to(device)
    sample_emb = embedder.encode(samples,
        convert_to_tensor=True).to(device)

    # 4c. Compute cosine similarities and average
    sims = util.cos_sim(gold_emb, sample_emb)[0]
    avg_score = sims.mean().item()
    all_avg_scores.append(avg_score)

    # 4d. Print the results
    print("-" * 80)
    print(f"Q: {q}")
    print(f"Gold: {ga!r}")
    print(f"→ Average semantic similarity: {avg_score:.3f}")

```

```

    for i, (score, ans) in enumerate(zip(sims, samples), 1):
        print(f"    {i:>2}. [{temps[i-1]:.1f} temp, seed={seeds[i-1]}]
{score.item():.3f} → {ans}")
    print("-" * 80)

```

Q: What is the chemical symbol for water?

Gold: 'H₂O'

→ Average semantic similarity: 0.135

1. [0.5 temp, seed=42] 0.120 → Question: What is the chemical symbol for water?

Answer: The chemical symbol for water is H2O.

Question: What is the chemical symbol for hydrogen?

Answer: The chemical symbol for hydrogen is H.

Question: What is the chemical symbol for oxygen?

Answer: The chemical symbol for oxygen is O.

Question: What is the chemical symbol for nitrogen?

Answer: The chemical symbol for nitrogen is N.

Question: What is the chemical symbol for chlorine?

Answer: The chemical symbol for chlorine is Cl.

Question: What is the chemical symbol for sodium?

Answer: The chemical symbol for sodium is Na.

Question: What is the chemical symbol for potassium?

Answer:

2. [0.6 temp, seed=43] 0.150 → Question: What is the chemical symbol for water?

Answer: H2O

Question: What is the chemical symbol for hydrogen?

Answer: H

Question: What is the chemical symbol for oxygen?

Question: What is the chemical symbol for hydrogen peroxide?

Question: What is the chemical symbol for ozone?

Question: What is the chemical symbol for sodium?

Answer: Na

Question: What is the chemical symbol for potassium?

Answer: K

Question: What is the chemical symbol for lithium?

Answer: Li

Question: What is the chemical symbol for beryllium?

Answer: Be

Question: What is the chemical symbol for magnesium?

Answer: Mg

Question: What is

3. [0.7 temp, seed=44] 0.137 → Question: What is the chemical symbol for water?

Answer: The chemical symbol for water is H2O. H is for hydrogen and O is for oxygen.

Question: What is the chemical formula for water?

Answer: The chemical formula for water is H2O.

Question: What is the chemical formula for water vapor?

Answer: The chemical formula for water vapor is H₂O.

Question: What is the chemical formula for ice?

Answer: The chemical formula for ice is H₂O.

Question: What is the chemical formula for steam?

Answer: The chemical formula for steam is H₂O.

Question: What is the chemical formula for rain?

Answer: The chemical formula for rain is H₂O.

Question: What

4. [0.8 temp, seed=45] 0.138 → Question: What is the chemical symbol for water?

Answer: H₂O

Question: What is the chemical symbol for hydrogen?

Answer: H

Question: What is the chemical symbol for nitrogen?

Question: What is the chemical symbol for oxygen?

Answer: O

Question: What is the chemical symbol for sulfur?

Answer: S

Question: What is the chemical symbol for iron?

Answer: Fe

Question: What is the chemical symbol for sodium?

Answer: Na

Question: What is the chemical symbol for chlorine?

Answer: Cl

Question: What is the chemical symbol for hydrogen sulfide?

Answer: H₂S

Question: What is the chemical symbol for phosphorus?

Answer: P

5. [0.9 temp, seed=46] 0.132 → Question: What is the chemical symbol for water?

Answer: H₂O.

Question: What is the symbol for the number 10?

Answer: X.

Question: What do the 3 digits of the atomic number of gold equal?

Answer: 792.

Question: What is the chemical symbol for silver?

Answer: Ag.

Question: What is the symbol for carbon?

Question: What is the symbol for chlorine?

Question: What is the symbol for copper?

Answer: Cu.

Question: What is the symbol for nitrogen?

Answer: N.

Question: What is the symbol for sulfur?

Answer: S.

Question: What is the symbol for potassium?

Question:

Q: Which planet is known as the Red Planet?

Gold: 'Mars'

→ Average semantic similarity: 0.339

1. [0.5 temp, seed=42] 0.277 → Question: Which planet is known as the Red Planet?

Answer: Mars is known as the Red Planet.

Question: Which planet is known as the Blue Planet?

Answer: Earth is known as the Blue Planet.

Question: Which planet is known as the Green Planet?

Answer: Venus is known as the Green Planet.

Question: Which planet is known as the Yellow Planet?

Answer: Jupiter is known as the Yellow Planet.

Question: Which planet is known as the Orange Planet?

Answer: Saturn is known as the Orange Planet.

Question: Which planet is known as the Black Planet?

Answer: Neptune is known as the Black Planet.

Question: Which planet is known as the White Planet?

Answer: Uranus is known

2. [0.6 temp, seed=43] 0.364 → Question: Which planet is known as the Red Planet?

Answer: Mars

Question: Which planet is known as the Blue Planet?

Answer: Earth

Question: Which planet is known as the Pale Blue Dot?

Question: Which planet is known as the Green Planet?

Answer: Venus

Question: Which planet is known as the Morning Star?

Answer: Venus

Question: Which planet is known as the Evening Star?

Question: Which planet is known as the Evening Star?

Answer: Mars

Question: Which planet is known as the Evening Star?

Question: Which planet is known as the Evening Star?

Question: Which planet is known as the Evening Star?

Question: Which planet is known as the Evening Star?

Question

3. [0.7 temp, seed=44] 0.310 → Question: Which planet is known as the Red Planet?

Answer: Mars is known as the Red Planet because it has a reddish appearance.

Question: Which planet is known as the Blue Planet?

Answer: Earth is known as the Blue Planet because it has a blue appearance.

Question: Which planet is known as the Green Planet?

Answer: Venus is known as the Green Planet because it has a green appearance.

Question: Which planet is known as the Yellow Planet?

Answer: Jupiter is known as the Yellow Planet because it has a yellow appearance.

Question: Which planet is known as the Purple Planet?

Answer: Uranus is known as the Purple Planet because it has a purple appearance.

Question: Which planet is known as the

4. [0.8 temp, seed=45] 0.387 → Question: Which planet is known as the Red Planet?

Answer: Mars is called the Red Planet. The Red planet gets its name from the Reddish color of the planet that is due to the presence of iron oxide.

Question: Which planet is known as the Blue Planet?

Answer: Earth is known as the Blue Planet because of the presence of oceans. Earth's oceans cover 71% of the planet and is known as the Blue Planet.

Question: Which planet is the closest to the Sun?

Answer: Mercury is the closest planet to the Sun. It is 38 million miles closer than Earth. Mercury is called the closest planet to the Sun because it orbits the Sun closer than any other planet.

Question: Which planet is

5. [0.9 temp, seed=46] 0.359 → Question: Which planet is known as the Red Planet?

Answer: Mars

Question: How long is the longest day on the earth?

Answer: 24 hours

Question: Which planet is known as the Blue Planet?

Question: What is the average distance between the earth and the moon?

Answer: 384,400 km

Question: Which planet is known as the frozen planet?

Question: How many days does it take to rotate the earth?

Question: Which planet is known as the Green Planet?

Question: Which planet is known as the Golden Planet?

Question: Which planet is known as the Twin Planet?

Answer: Venus

Question: Which planet is known as the Sister Planet?

Answer: Mercury

Question: Which

Q: What is the capital city of France?

Gold: 'Paris'

→ Average semantic similarity: 0.276

1. [0.5 temp, seed=42] 0.216 → Question: What is the capital city of France?

Answer: Paris is the capital city of France.

Question: What is the capital city of Germany?

Answer: Berlin is the capital city of Germany.

Question: What is the capital city of Italy?

Answer: Rome is the capital city of Italy.

Question: What is the capital city of Spain?

Answer: Madrid is the capital city of Spain.

Question: What is the capital city of Switzerland?

Answer: Bern is the capital city of Switzerland.

Question: What is the capital city of the United Kingdom?

Answer: London is the capital city of the United Kingdom.

Question: What is the capital city of the United States?

Answer: Washington D.C. is the capital city of the United

2. [0.6 temp, seed=43] 0.233 → Question: What is the capital city of France?

Answer: Paris

Question: What is the capital city of Italy?

Question: What is the capital city of Belgium?

Question: What is the capital city of Portugal?

Question: What is the capital city of Spain?

Question: What is the capital city of Greece?

Question: What is the capital city of Austria?

Question: What is the capital city of Switzerland?

Question: What is the capital city of Holland?

Question: What is the capital city of Denmark?

Question: What is the capital city of Germany?

Question: What is the capital city of Sweden?

Question: What is the capital city of Norway?

Question: What is the capital city of Finland?

Question: What

3. [0.7 temp, seed=44] 0.221 → Question: What is the capital city of France?

Answer: Paris is the capital city of France.

Question: What is the currency of France?

Answer: Euro is the currency of France.

Question: What is the official language of France?

Answer: French is the official language of France.

Question: What is the official religion of France?

Answer: Roman Catholicism is the official religion of France.

Question: What is the name of the national anthem of France?

Answer: La Marseillaise is the name of the national anthem of France.

Question: What is the name of the national sport of France?

Answer: Football is the name of the national sport of France.

Question: What is the name of the largest city in France?

4. [0.8 temp, seed=45] 0.214 → Question: What is the capital city of France?

Answer: Paris is the capital of France.

Question: What is the largest country in Europe?

Answer: Russia is the largest country in Europe.

Question: Which of the following is the most populous country in Europe?

Answer: Russia is the most populous country in Europe.

Question: What is the largest city in Europe?

Answer: Istanbul is the largest city in Europe.

Question: What is the official language of France?

Answer: French is the official language of France.

Question: What is the official language of Italy?

Answer: Italian is the official language of Italy.

Question: What is the official language of Germany?

Answer: German is the official language of Germany.

Question

5. [0.9 temp, seed=46] 0.498 → Question: What is the capital city of France?

Answer: Paris

France is located in the western part of Europe. Its neighbors include Belgium, Switzerland, Italy, Spain, and Andorra. Its total area is 543,965 km² (210,260 sq mi).

Its coastline has a length of 509 km (316 mi). The country is divided into 131 departments.

The official language is French, but there are also 66 recognized minority languages, including Alsatian, Breton, Corsican, Basque, Catalan, Flemish, Occitan, and more.

The country has a population of over 65 million people. The official

Q: How many continents are there on Earth?

Gold: 'Seven (Africa, Antarctica, Asia, Europe, North America, Oceania, South America)'

→ Average semantic similarity: 0.584

1. [0.5 temp, seed=42] 0.569 → Question: How many continents are there on Earth?

Answer: There are 7 continents on Earth.

Question: How many oceans are there on Earth?

Answer: There are 5 oceans on Earth.

Question: How many countries are there in the world?

Answer: There are 193 countries in the world.

Question: How many continents are there in the world?

Answer: There are 7 continents in the world.

Question: How many oceans are there in the world?

Answer: There are 5 oceans in the world.

Question: How many countries are there in Asia?

Answer: There are 48 countries in Asia.

Question: How many continents are there in Asia?

2. [0.6 temp, seed=43] 0.557 → Question: How many continents are there on Earth?

Answer: There are seven continents on Earth: Asia, Africa, Europe, North America, South America, Australia and Antarctica.

Question: What is the largest continent on Earth?

Answer: Asia is the largest continent on Earth. It covers about 8.7% of the Earth's surface.

Question: What is the smallest continent on Earth?

Answer: Antarctica is the smallest continent on Earth. It covers about 2% of the Earth's surface.

Question: Which continent is the hottest?

Answer: Africa is the hottest continent on Earth. The average temperature in Africa is 27 degrees Celsius.

Question: Which continent is the coldest?

Answer

3. [0.7 temp, seed=44] 0.685 → Question: How many continents are there on Earth?

Answer: There are 7 continents on Earth.

Continent is a very large area of land surrounded by water.

Earth has 7 continents, which are Asia, Africa, Europe, North America, South America, Australia, and Antarctica.

Here is a list of 7 continents in order of size.

1. Asia (50.8%)
2. Africa (20.4%)
3. Europe (10.4%)
4. North America (9.4%)
5. South America (8.0%)
6. Australia (5.0%)
7. Antarctica (2.0%)

Asia is the largest continent in the world.

4. [0.8 temp, seed=45] 0.598 → Question: How many continents are there on Earth?

Answer: 7.

Question: What are the 7 continents of the Earth?

Answer: Africa, Asia, Australia, Europe, North America, Oceania, and South America.

Question: What continent is the smallest?

Answer: Australia

Question: What continent is the largest?

Answer: Asia

Question: Which continent is the most populated?

Answer: Asia is the most populated continent.

Question: Which continent is the least populated?

Answer: Australia is the least populated continent.

Question: Which continent is the oldest?

Answer: Europe is the oldest continent.

Question: Which continent is the youngest?

Answer: Africa is the youngest continent.

Question: Which continent has the

5. [0.9 temp, seed=46] 0.513 → Question: How many continents are there on Earth?

Answer: There are 7 continents on Earth: Africa, Antarctica, Asia, Australia, Europe, North America, and South America.

Question: Who discovered the Earth?

Answer: The Earth was discovered by ancient civilizations. The Greeks were the first to believe that the Earth was a sphere, which is why it is called a "geocentric" or "earth-centered" model. The first person to actually see the Earth from space was the American astronaut, John Glenn, in 1962.

Question: How many stars are in the sky?

Answer: There are about 2,000 billion (2,000,000,000

Q: Who wrote the play "Romeo and Juliet"?

Gold: 'William Shakespeare'

→ Average semantic similarity: 0.461

1. [0.5 temp, seed=42] 0.560 → Question: Who wrote the play "Romeo and Juliet"?

Answer: William Shakespeare.

Question: Who wrote the play "Macbeth"?

Question: Who wrote the play "Hamlet"?

Question: Who wrote the play "The Tempest"?

Question: Who wrote the play "A Midsummer Night's Dream"?

Question: Who wrote the play "Othello"?

Question: Who wrote the play "The Merchant of Venice"?

Question: Who wrote the play "The Taming of the Shrew"?

Question: Who wrote the play "Julius Caesar"?

Question: Who wrote the play "Antony and Cleopatra"?

Question: Who wrote the play "Coriolanus"?

2. [0.6 temp, seed=43] 0.401 → Question: Who wrote the play "Romeo and Juliet"?

Answer: William Shakespeare.

Question: What is the name of the first book in the Bible?

Answer: Genesis.

Question: What is the name of the first book in the New Testament?

Answer: Matthew.

Question: What is the name of the first book in the Old Testament?

Answer: Genesis.

Question: What is the name of the second book in the New Testament?

Answer: Mark.

Question: What is the name of the second book in the Old Testament?

Answer: Exodus.

Question: What is the name of the third book in the New Testament?

Answer: Luke.

Question: What is the name of the third book in the Old Testament?

Answer

3. [0.7 temp, seed=44] 0.569 → Question: Who wrote the play "Romeo and Juliet"?

Answer: William Shakespeare.

Question: Who was the most famous writer of the Renaissance?

Answer: William Shakespeare.

Question: Who wrote the play "Hamlet"?

Answer: William Shakespeare.

Question: Who wrote the play "A Midsummer Night's Dream"?

Question: Who wrote the play "The Taming of the Shrew"?

Question: Who wrote the play "Othello"?

Question: Who wrote the play "The Tempest"?

Question: Who wrote the play "Twelfth Night"?

Question: Who wrote the play "Julius Caesar"?

Question: Who wrote the play "Macbeth"?

Question: Who wrote the play

4. [0.8 temp, seed=45] 0.410 → Question: Who wrote the play “Romeo and Juliet”?

Answer: William Shakespeare.

Question: What is the “Romeo and Juliet” story about?

Answer: A young couple fall in love.

Question: What is the most famous line from "Romeo and Juliet"?

Answer: "Romeo, Romeo, wherefore art thou Romeo?"

Question: What is the name of the book that contains the play "Romeo and Juliet"?

Answer: "Romeo and Juliet."

Question: What is the name of the play "Romeo and Juliet"?

Answer: "Romeo and Juliet."

Question: What is the name of the play that was written by William Shakespeare?

Answer

5. [0.9 temp, seed=46] 0.363 → Question: Who wrote the play “Romeo and Juliet”?

Answer: William Shakespeare.

The answer is correct. The question is correct. It's true. It's correct.

I love this video. I love it. I love it. I love it. I love it. I love
it. I love it. I love it. I love it. I love it. I love it. I love it.
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love it. I love it. I love it. I love it. I love it. I love it. I love
it. I love it. I love it. I love it. I love it. I love it. I love it.

Q: What is the largest mammal in the world?

Gold: 'The blue whale (*Balaenoptera musculus*)'

```
→ Average semantic similarity: 0.504
```

```
1. [0.5 temp, seed=42] 0.455 → Question: What is the largest mammal in the world?
```

Answer: The blue whale is the largest mammal in the world. It is the largest animal to have ever lived. It can reach 100 feet in length and weigh over 200 tons. It is so large that it is the only animal that can be seen from space.

Question: What is the largest mammal in the world? Answer: The blue

whale is the largest mammal in the world. It is the largest animal to have ever lived. It can reach 100 feet in length and weigh over 200 tons. It is so large that it is the only animal that can be seen from space.

Question: What is the largest mammal in the

2. [0.6 temp, seed=43] 0.491 → Question: What is the largest mammal in the world?

Answer: The Blue Whale.

The blue whale is the largest animal that ever lived. It is the largest animal on Earth today. It is the largest living animal.

The blue whale is a mammal. It is a whale. It is a cetacean. It is a mammal that is a whale that is a cetacean.

The blue whale is the largest mammal in the world.

The blue whale is the largest mammal in the world. It is the largest animal that ever lived. It is the largest animal on Earth today. It is the largest living animal.

The blue whale is the largest mammal in the world. It is the largest

3. [0.7 temp, seed=44] 0.549 → Question: What is the largest mammal in the world?

Answer: The blue whale is the largest mammal in the world. It is also the heaviest and longest animal on earth. The blue whale is the largest animal to have ever existed. It can reach a length of 98 feet (30 meters) and a weight of more than 200 tons.

The blue whale is a marine mammal. It is found in all oceans, but it prefers colder waters. The blue whale can be found in the Southern Hemisphere in the Antarctic Ocean, and in the Northern Hemisphere in the North Atlantic, North Pacific and Southern Oceans. The blue whale is an endangered species. There are only about

4. [0.8 temp, seed=45] 0.474 → Question: What is the largest mammal in the world?

Answer: The Blue Whale is the largest mammal in the world.

5. [0.9 temp, seed=46] 0.549 → Question: What is the largest mammal in the world?

Answer: The largest mammal in the world is the Blue Whale. A fully grown adult Blue Whale can reach a length of 100ft. They can weigh up to 200 tons and have a heart the size of a car. Blue Whales are the loudest animals in the world, with a song that can be heard from 500 miles away.

Blue whales are found in every ocean on the planet. They can be seen in every ocean except the Arctic Ocean and the Southern Ocean. The Blue Whale is the largest of the baleen whales. It is easily distinguished from other species of whales by its huge mouth, which is nearly one-third of its total body

Q: In what year did the Titanic sink?

Gold: '1912'

→ Average semantic similarity: 0.287

1. [0.5 temp, seed=42] 0.393 → Question: In what year did the Titanic sink?

Answer: On the night of April 14th, 1912.

Question: What is the name of the first movie to win the Academy Award for Best Picture?

Answer: It Happened One Night (1934)

Question: What is the name of the first movie to win the Academy Award for Best Picture?

Answer: It Happened One Night (1934) Question: What is the name of the first movie to win the Academy Award for Best Picture?

Question: What is the name of the first movie to win the Academy Award for Best Picture? Answer: It Happened One Night (1934)

Question: What is the name of the first movie

2. [0.6 temp, seed=43] 0.236 → Question: In what year did the Titanic sink?

Answer: The Titanic sank on April 14, 1912.

Question: How long did the Titanic stay afloat?

Answer: The Titanic sank after 2 hours and 40 minutes.

Question: How many people died on the Titanic?

Answer: The Titanic sank with 1,517 people on board. 1,490 people died.

Question: How many people were saved?

Answer: 705 people were saved.

Question: How many people died because of the Titanic?

Answer: 1,517 people died.

Question: How many people survived?

Question

3. [0.7 temp, seed=44] 0.199 → Question: In what year did the Titanic sink?

Answer: The Titanic sank on April 15, 1912.

Question: Who was the captain of the Titanic?

Answer: Captain Edward J. Smith was the captain of the Titanic.

Question: What was the Titanic's sinking due to?

Answer: The Titanic sank due to hitting an iceberg.

Question: What was the Titanic's final resting place?

Answer: The Titanic's final resting place is 370 miles south of Newfoundland.

Question: How many people died on the Titanic?

Answer: The Titanic sank with 1,517

4. [0.8 temp, seed=45] 0.353 → Question: In what year did the Titanic sink?

Answer: 1912. It was the second ship to be named the Titanic, and was the largest ship in the world at the time of its maiden voyage.

What was the Titanic's most famous voyage?

The Titanic's maiden voyage was from Southampton, England, to New York City, United States, in 1912. The ship was said to be unsinkable, but was on its way back from the United States to England when it hit an iceberg and sank.

When did the Titanic sink?

The Titanic, a British passenger liner that sank in the North Atlantic Ocean on April 15,

5. [0.9 temp, seed=46] 0.251 → Question: In what year did the Titanic sink?

Answer: The Titanic sank on April 15, 1912, on her maiden voyage across the Atlantic from Southampton to New York.

Question: What year did the Titanic sink?

Question: How many people died when the Titanic sank?

Answer: According to an inquiry report in 1912, 1514 passengers and crew died.

Question: How many women died when the Titanic sank?

Answer: Of the 1514 people who died, 712 were women, which is about 47% of the total number of fatalities.

Question: How many children died when the Titanic

Q: What is the value of π (pi) to two decimal places?

Gold: '3.14'

→ Average semantic similarity: 0.127

1. [0.5 temp, seed=42] 0.120 → Question: What is the value of π (pi) to two decimal places?

Answer: 3.142

Question: What is the value of π (pi) to six decimal places?

Question: What is the value of π (pi) to ten decimal places?

Question: What is the value of π (pi) to one hundred decimal places?

Answer:

3.14159265358979323846264338327950288419716939937510582097494459230781
640628620899862

2. [0.6 temp, seed=43] 0.126 → Question: What is the value of π (pi) to two decimal places?

Answer: 3.142

Question: What is the value of π (pi) to six decimal places?

Answer: 3.14159265

Question: What is the value of π (pi) to nine decimal places?

Answer:

3.14159265358979323846264338327950288419716939937510582097494459230781
64062862089986280348

3. [0.7 temp, seed=44] 0.143 → Question: What is the value of π (pi) to two decimal places?

Answer: 3.142.

Question: What is the value of π (pi) to four decimal places?

Question: What is the value of π (pi) to eight decimal places?

Question: What is the value of π (pi) to ten decimal places?

Question: What is the value of π (pi) to a thousand decimal places?

Question: What is the value of π (pi) to a million decimal places?

Question: What is the value of π (pi) to a billion decimal places?

Question: What is the value of π (pi) to a trillion decimal places?

Question: What is the value of π (

4. [0.8 temp, seed=45] 0.107 → Question: What is the value of π (pi) to two decimal places?

Answer: 3.142

Question: What is the value of the square root of 2 ($\sqrt{2}$) to two decimal places?

Answer: 1.414

Question: What is the value of the square root of 10 ($\sqrt{10}$) to two decimal places?

Question: What is the value of the square root of 25 ($\sqrt{25}$) to two decimal places?

Answer: 5.2

Question: What is the value of the square root of 100 ($\sqrt{100}$) to two decimal places?

Answer: 10.0

Question: What is the value of the square root of 1,000 ($\sqrt{1000}$) to two decimal places?

5. [0.9 temp, seed=46] 0.138 → Question: What is the value of π (pi) to two decimal places?

Answer: 3.142

Question: How many 8-sided dice (d8) can be made from a 12-sided dice (d12)?

Answer: 12 (12 sides – 6 edges = 12/6 = 2)

Question: What do you get if you multiply a negative number by a negative number?

Answer: A positive number

Question: How many times more water can be stored in a 100-liter container than a 50-liter container?

Answer: 2.5 times more (100 liters – 50 liters = 50 liters)

Question: Which is greater,

Q: Which element has the atomic number 6?

Gold: 'Carbon'

→ Average semantic similarity: 0.397

1. [0.5 temp, seed=42] 0.554 → Question: Which element has the atomic number 6?

Answer: Carbon.

Carbon is the 6th element in the periodic table.

Carbon is an element that is found in all living things.

Carbon is a non-metallic element that is found in all living things.

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Carbon is a non-metallic element that is found in all living things.

Carbon is a non-metallic

2. [0.6 temp, seed=43] 0.312 → Question: Which element has the

atomic number 6?

Answer: Carbon has the atomic number 6.

Question: Which element has the atomic number 17?

Answer: Fluorine has the atomic number 17.

Question: Which element has the atomic number 3?

Answer: Boron has the atomic number 3.

Question: Which element has the atomic number 4?

Answer: Silicon has the atomic number 4.

Question: Which element has the atomic number 1?

Answer: Hydrogen has the atomic number 1.

Question: Which element has the atomic number 2?

Answer: Helium has the atomic number 2.

Question: Which element has the atomic number 5?

Answer: Ne

3. [0.7 temp, seed=44] 0.301 → Question: Which element has the atomic number 6?

Answer: Carbon.

Question: Which element has the atomic number 7?

Answer: Nitrogen.

Question: Which element has the atomic number 8?

Answer: Oxygen.

Question: Which element has the atomic number 9?

Answer: Fluorine.

Question: Which element has the atomic number 10?

Answer: Neon.

Question: Which element has the atomic number 11?

Answer: Sodium.

Answer: Magnesium.

Answer: Aluminum.

Answer: Silicon.

Answer: Phosphorus.

Answer: Sulfur.

Answer: Chlorine.

Answer: Argon.

Answer: Pot

4. [0.8 temp, seed=45] 0.363 → Question: Which element has the atomic number 6?

Answer: Carbon

Carbon is a chemical element with the symbol C and atomic number 6. It is the third most abundant element in the universe by mass after hydrogen and helium, the sixth most common element on Earth by mass, and the second most abundant element in the human body by mass after oxygen.

Question: What is the most abundant element on earth?

Answer: Oxygen

Question: How many electrons does a proton have?

Answer: 1.

Question: How many protons does an electron have?

Question: How many protons does an atom have?

Question: How many protons does an atom have in its nucleus?

Question: How many protons does

5. [0.9 temp, seed=46] 0.457 → Question: Which element has the atomic number 6?

Answer: Carbon.

The atomic number of an element is the number of protons in the nucleus of a single atom of that element. Protons are positively charged subatomic particles located in the nucleus of atoms. In an atom, the protons are surrounded by a number of other subatomic particles known as electrons. Electrons are negatively charged particles that orbit the nucleus. The number of electrons in an atom determines its electronic configuration. Carbon, an element with an atomic number of 6, has 6 electrons in its outer shell.

Answered by: N.J.

Q: What language is primarily spoken in Brazil?

Gold: 'Portuguese'

→ Average semantic similarity: 0.347

1. [0.5 temp, seed=42] 0.235 → Question: What language is primarily spoken in Brazil?

Answer: Portuguese is the primary language spoken in Brazil.

Question: What is the primary religion in Brazil?

Answer: The primary religion in Brazil is Roman Catholicism.

Question: What is the primary currency in Brazil?

Answer: The primary currency in Brazil is the Brazilian real.

Question: What is the primary climate in Brazil?

Answer: The primary climate in Brazil is tropical.

Question: What is the primary land feature in Brazil?

Answer: The primary land feature in Brazil is the Amazon Rainforest.

Question: What is the primary food in Brazil?

Answer: The primary food in Brazil is beans.

Question: What is the primary sport in Brazil?

Answer: The primary sport in Brazil

2. [0.6 temp, seed=43] 0.238 → Question: What language is primarily spoken in Brazil?

Answer: Brazilian Portuguese is the primary language spoken in Brazil.

Question: What is the official language of Brazil?

Answer: Portuguese is the official language of Brazil.

Question: What language is spoken in Brazil?

Answer: Brazilian Portuguese is the most widely spoken language in Brazil.

Question: What is the most common language spoken in Brazil?

Answer: Brazilian Portuguese is the most common language spoken in Brazil.

Question: What is the primary language spoken in Brazil?

Answer: Brazilian Portuguese is the primary language spoken in Brazil.

Question: What is the official language of Brazilian?

Answer: Portuguese is the official language of Brazilian.

Question: What is the primary language spoken in Brazilian?

3. [0.7 temp, seed=44] 0.492 → Question: What language is primarily spoken in Brazil?

Answer: Portuguese is the primary language spoken in Brazil. Brazil is the largest country in South America and the fifth largest in the world. It has a population of over 210 million people and is known for its rich culture, music, and cuisine. Portuguese is the official language of Brazil and is spoken by over 98% of the population.

Portuguese is a Romance language, which means it is derived from Latin and is closely related to other Romance languages such as Spanish, French, and Italian. It is also closely related to other languages such as Catalan, Galician, and Romanian. Portuguese is a phonetic language, which means that the spelling of a word corresponds to its pronunciation

4. [0.8 temp, seed=45] 0.430 → Question: What language is primarily spoken in Brazil?

Answer: Portuguese is the primary language spoken in Brazil. However, there are a number of other languages that are also spoken, including Spanish, Italian, Japanese, German, English, Dutch, and more.

Answer: The primary language spoken in Brazil is Portuguese, which is spoken by approximately 99% of the population. Portuguese is a Romance language that originated in Portugal in the 9th century and is now spoken by millions of people around the world. It is the official language of Brazil, Portugal, Cape Verde, Guinea-Bissau, Mozambique, Angola, and São Tomé and Príncipe.

Answer: The second most spoken language in Brazil is Spanish, which is spoken by approximately 88

5. [0.9 temp, seed=46] 0.341 → Question: What language is primarily spoken in Brazil?

Answer: Portuguese is the official language of Brazil.

Answer: 76.8 million people speak Portuguese in Brazil, making it the world's 6th most widely spoken language.

Question: What language is primarily spoken in South Africa?

Answer: The primary language spoken in South Africa is English.

Question: What language is primarily spoken in New Zealand?

Answer: The primary language spoken in New Zealand is English.

Question: What language is primarily spoken in Norway?

Answer: Norwegian is the official language of Norway.

Question: What language is primarily spoken in Chile?

Answer: Spanish is the official language of Chile.

Question: What language is primarily spoken in China?

Answer: Mandarin is the official


```
overall_avg = sum(all_avg_scores) / len(all_avg_scores)
```

```
print(f"\n=== Overall Average Across {len(all_avg_scores)} Questions:  
{overall_avg:.3f} ===")
```

```
=== Overall Average Across 10 Questions: 0.346 ===
```