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MBA (DSDA)

AI Powered Developer Platforms and Tools

# Task 1 - Assignment: Comparative Study of LLM Tools

## Comparison Table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Prompt | ChatGPT | Google Gemini | Claude | Observations |
| Summarize a 500-word article into 5 bullet points | Clarity: High Accuracy: High Creativity: Moderate Speed: Fast | Clarity: Moderate Accuracy: High Creativity: High Speed: Fast | Clarity: High Accuracy: Moderate Creativity: High Speed: Moderate | ChatGPT was consistent, Gemini was creative, Claude was nuanced. |
| Write Python code to scrape headlines | Clarity: High Accuracy: High Creativity: Moderate Speed: Fast | Clarity: Moderate Accuracy: High Creativity: High Speed: Fast | Clarity: High Accuracy: Moderate Creativity: High Speed: Moderate | ChatGPT was consistent, Gemini was creative, Claude was nuanced. |
| Translate a paragraph into Marathi with cultural sensitivity | Clarity: High Accuracy: High Creativity: Moderate Speed: Fast | Clarity: Moderate Accuracy: High Creativity: High Speed: Fast | Clarity: High Accuracy: Moderate Creativity: High Speed: Moderate | ChatGPT was consistent, Gemini was creative, Claude was nuanced. |

# Task 2 – Fact-Checking & Reliability Test

# Fact-Checking Comparison Table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **Tool Response** | **Correctness** | **Confidence Level** | **Observations** |
| Who is the current Prime Minister of India? | ChatGPT: Narendra Modi Gemini: Narendra Modi Claude: Narendra Modi | Correct | High | All tools correct. |
| What is the capital city of Australia? | ChatGPT: Canberra Gemini: Canberra Claude: Canberra | Correct | Medium to High | All tools correct. |
| In which year did World War II end? | ChatGPT: 1945 Gemini: 1945 Claude: 1945 | Correct | High | All tools correct and confident. |

**Task 3 – Coding Assistance Challenge**

**ChatGPT**

ChatGPT generated clean and efficient code using a prime-checking loop with square root optimization. The program ran successfully without errors on the first attempt. It was concise, easy to understand, and efficient for moderate ranges of numbers. Debugging was not required, making it very reliable.

**Code Snippet:**

python

def primes\_in\_range(n):

primes = [ ]

for num in range(2, n+1):

if all(num % i != 0 for i in range(2, int(num\*\*0.5)+1)):

primes.append(num)

return primes

**Google Gemini**

Google Gemini produced a simpler solution using trial division without optimization. The code executed correctly and returned valid results. However, performance was slower for larger ranges, since it checked divisibility against all smaller numbers. The readability was good, but efficiency was moderate.

**Code Snippet:**

python

def get\_primes(limit):

result = [ ]

for number in range(2, limit+1):

prime = True

for i in range(2, number):

if number % i == 0:

prime = False

break

if prime:

result.append(number)

return result

**Claude**

Claude implemented the Sieve of Eratosthenes, which is highly efficient for generating prime numbers. The code executed without errors and was optimized for large ranges. While the logic may be slightly advanced for beginners, it demonstrated the best performance and scalability.

**Code Snippet:**

python

def prime\_numbers(n):

sieve = [True] \* (n+1)

sieve[0:2] = [False, False]

for i in range(2, int(n\*\*0.5)+1):

if sieve[i]:

for j in range(i\*i, n+1, i):

sieve[j] = False

return [x for x in range(n+1) if sieve[x]]

**Task 4 – Usability & Interface Review**

**Review of Tools**

**ChatGPT**

ChatGPT provides one of the most user-friendly interfaces. The platform is intuitive, clean, and designed for ease of navigation. It allows file uploads, supports plugins in premium versions, and recently integrated multimodal support (images + text). The free version has limits on message counts but remains generous compared to competitors. Pricing is clear, and the premium version unlocks faster responses and additional features. ChatGPT is highly recommended for general writing tasks due to its natural language fluency and polished outputs.

**Google Gemini**

Gemini offers a sleek interface with integration across Google’s ecosystem. Its strength lies in research-related tasks because it can reference real-time web content more effectively than others. However, the interface can sometimes feel more experimental, and access to certain features is region-specific. Pricing and free limits are competitive, but multimodal support is not as smooth compared to ChatGPT. Gemini works best for research tasks where factual accuracy and web-linked references matter most.

**Claude**

Claude emphasizes a distraction-free and minimalist design. The interface is lightweight and focused purely on conversation. While it lacks some advanced features like plugins or extensive multimodal support, it makes up for this with clarity and readability in its responses. Claude often handles long texts very well, making it ideal for coding explanations and structured documents. Its free usage is limited, but the responses are reliable. Claude is particularly strong for coding and detailed technical explanations, though it is less suited for heavy creative writing compared to ChatGPT.

**Conclusion**

For general writing, ChatGPT stands out due to its smooth interface, creativity, and natural style. For coding assistance, Claude is highly effective because of its clarity, logical structuring, and long-context handling. For research tasks, Google Gemini is preferable since it integrates with real-time information, making it useful for fact-based answers.