

## **EXP 2: Evaluation of Prompting Tools Across Diverse AI Platforms: ChatGPT, Claude, Bard, Copilot and Meta**

### **Aim:**

To compare the performance, user experience, and response quality of different AI platforms (ChatGPT, Claude, Bard, Copilot, and Meta) within a specific use case, such as summarizing text or answering technical questions.

### **Instructions:**

#### **1. Define the Use Case:**

- Select a specific task for evaluation across platforms (e.g., summarizing a document, answering a technical question, or generating a creative story / Code).
- Ensure the use case is applicable to all platforms and will allow for comparison across response quality, accuracy, and depth.

#### **2. Create a Set of Prompts:**

- Prepare a uniform set of prompts that align with the chosen use case.
- Each prompt should be clear and precise, ensuring that all platforms are evaluated using the same input.
- Consider multiple prompts to capture the versatility of each platform in handling different aspects of the use case.

#### **3. Run the Experiment on Each AI Platform:**

- Input the prompts into each AI tool (ChatGPT, Claude, Bard, Copilot Command, and Meta) and gather the responses.
- Ensure the same conditions are applied for each platform, such as input format, time to respond, and prompt delivery.
- Record response times, ease of interaction with the platform, and any technical issues encountered.

#### **4. Evaluate Response Quality:**

- Assess each platform's responses using the following criteria:  
**Accuracy, Clarity, Depth, Relevance**

#### **5. Compare Performance:**

- Compare the collected data to identify differences in performance across platforms.
- Identify any platform-specific advantages, such as faster response times, more accurate answers, or more intuitive interfaces.

### **Deliverables:**

- A comparison table outlining the performance of each platform (ChatGPT, Claude, Bard, Cohere Command, and Meta) based on accuracy, clarity, depth, and relevance of responses.
- A final report summarizing the findings of the experiment, including recommendations on the most suitable AI platform for different use cases based on performance and user experience.

## OUTPUT:

Prompts inputs used-

1. Write a C Program to convert lower case vowel letters to upper case letters.
2. Create a poem defining rainbow.
3. The ratio of boys to girls in a class is 3:2. If there are 15 boys, how many girls are there?
4. Generate a image of jasmine flower.

## AI TOOLS RESPONSE:

### COPILLOT AI:

#### 1. Write a C Program to convert lower case vowel letters to upper case letters.

```
#include <stdio.h>
```

```
void convertVowelToUpper(char *str)
{
    for (int i = 0; str[i] != '\0'; i++)
    {
        if (str[i] == 'a' || str[i] == 'e' || str[i] == 'i' || str[i] == 'o' || str[i] == 'u')
        {
            str[i] = str[i] - 32; // Convert to uppercase
        }
    }
}
```

```
int main()
{
    char str[100];

    printf("Enter a string: ");
    fgets(str, sizeof(str), stdin);

    convertVowelToUpper(str);

    printf("Modified string: %s", str);

    return 0;
}
```

## 2. Create a poem defining rainbow.

A ribbon stretched across the sky, A whisper soft, a joyful sigh. Seven shades in harmony dance, A fleeting glance, a magic trance.

Born of storm and sun's embrace, A fleeting arc, a touch of grace. Hope and wonder, colors blend, A promise bright that knows no end.

A bridge between the earth and dreams, A painter's stroke in golden beams. Nature's prism, pure and bold, A silent story, bright and told.

I hope you like it! Let me know if you'd like a different style or tone. □ ✦ ✧

## 3. The ratio of boys to girls in a class is 3:2. If there are 15 boys, how many girls are there?

The ratio of boys to girls is 3:2. This means that for every 3 boys, there are 2 girls.

Given that there are 15 boys, we can set up the proportion:

If 3 parts = 15 boys, then 1 part equals  $15 \div 3 = 5$ .

Since girls make up 2 parts, we calculate  $5 \times 2 = 10$  girls.

## 4. Generate a image of jasmine flower.



## CHATGPT :

### 1.write a C Program to convert lower case vowel letters to upper case letters.

```
#include <stdio.h>

int main() {
    char ch;

    printf("Enter a lowercase character: ");
    scanf("%c", &ch);

    if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
        ch = ch - 32; // ASCII conversion from lowercase to uppercase
        printf("The uppercase vowel is: %c\n", ch);
    } else {
        printf("The character is not a lowercase vowel.\n");
    }

    return 0;
}
```

---

### 2. Poem Defining a Rainbow:

#### "The Rainbow's Song"

A bow of color spans the sky,  
After rain has said goodbye.  
Seven hues in gentle arc,  
Painting hope with vibrant spark.

Red and orange, bold and bright,  
Yellow beams with sunny light.  
Green like leaves in springtime's cheer,  
Blue as oceans, deep and clear.

Indigo and violet glow,  
At the end of nature's show.  
A magic bridge from sun to rain,  
The rainbow sings in soft refrain.

---

### 3.The ratio of boys to girls in a class is 3:2. If there are 15 boys, how many girls are there?

Math Problem (Ratio of Boys to Girls):

Given:

- Ratio of boys to girls = 3:2
- Number of boys = 15

To find the number of girls:

$$\frac{Boys}{Girls} = \frac{3}{2} \Rightarrow \frac{15}{Girls} = \frac{3}{2} \Rightarrow Girls = \frac{15 \times 2}{3} = 10$$

✅ There are 10 girls in the class.

---

#### 4. Generate an Image of a Jasmine Flower:

Generating the image now...



## **BARD AI:**

### **1. Write a C Program to convert lower case vowel letters to upper case letters.**

```
#include <stdio.h>
#include <ctype.h>

int main() {
    char ch;

    printf("Enter a character: ");
    scanf("%c", &ch);

    if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
        ch = toupper(ch);
        printf("Uppercase equivalent: %c\n", ch);
    } else {
        printf("The entered character is not a lowercase vowel.\n");
    }

    return 0;
}
```

### **2. Create a poem defining rainbow.**

Ah, a rainbow! Let's paint its definition in verse:

A bow of light, a gentle bend,  
Across the sky, where storms transcend.  
When sunbeams kiss the falling rain,  
A spectrum bursts, then fades again.

From deepest red, a fiery start,  
To orange hues, a vibrant heart.  
Then yellow gleams, a golden ray,  
As verdant green begins to sway.

Blue follows soft, a tranquil sight,  
With indigo's deep, mysterious light.  
And violet ends the graceful arc,  
A painted wonder, leaving its mark.

A promise whispered, after showers cease,  
A fleeting glimpse of colorful peace.  
A prism's truth, in watery air,  
A rainbow's beauty, beyond compare.

**3. The ratio of boys to girls in a class is 3:2. If there are 15 boys, how many girls are there?**

This is a classic ratio problem! Let's break it down to find the number of girls.

We know the ratio of boys to girls is 3:2. This means for every 3 boys, there are 2 girls.

We are also told that there are actually 15 boys in the class.

To find out how many "sets" of this 3:2 ratio are in the class, we can divide the actual number of boys by the 'boys' part of the ratio:

Number of sets = Total boys / Ratio of boys

Number of sets =  $15 / 3$

Number of sets = 5

Since there are 5 "sets" of the ratio, and each set has 2 girls, we can find the total number of girls by multiplying the number of sets by the 'girls' part of the ratio:

Total girls = Number of sets \* Ratio of girls

Total girls =  $5 * 2$

Total girls = 10

Therefore, there are 10 girls in the class.

**4. Generate a image of jasmine flower.**



## META AI:

### 1. Write a C Program to convert lower case vowel letters to upper case letters.

Here's a C program that converts lowercase vowel letters to uppercase letters:

```
#include <stdio.h>

int main() {
    char ch;

    printf("Enter a character: ");
    scanf(" %c", &ch);

    // Check if the character is a lowercase vowel
    if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
        // Convert to uppercase
        ch = ch - 32; // ASCII value difference between lowercase and uppercase
    }

    printf("Output: %c\n", ch);

    return 0;
}
```

### 2. Create a poem defining rainbow.





**3. The ratio of boys to girls in a class is 3:2. If there are 15 boys, how many girls are there?**

Let's use the ratio to set up a proportion. The ratio of boys to girls is 3:2, and we know there are 15 boys.

Let the number of girls be  $2x$  and the number of boys be  $3x$ .

Since there are 15 boys, we can set up the equation:

$$3x = 15$$

$$x = 5$$

Now, we can find the number of girls:

$$\text{Number of girls} = 2x$$

$$= 2 \times 5$$

$$= 10$$

There are 10 girls in the class.

**4. Generate a image of jasmine flower.**



## CLAUDE AI:

### 1. Write a C Program to convert lower case vowel letters to upper case letters.

```
#include <stdio.h>
#include <string.h>

int main() {
    char str[100];
    int i;

    // Get input from user
    printf("Enter a string: ");
    fgets(str, sizeof(str), stdin);

    // Remove the newline character if present
    if (str[strlen(str) - 1] == '\n') {
        str[strlen(str) - 1] = '\0';
    }

    // Process each character in the string
    for (i = 0; str[i] != '\0'; i++) {
        // Check if the character is a lowercase vowel
        switch (str[i]) {
            case 'a':
                str[i] = 'A';
                break;
            case 'e':
                str[i] = 'E';
                break;
            case 'i':
                str[i] = 'I';
                break;
            case 'o':
                str[i] = 'O';
                break;
            case 'u':
                str[i] = 'U';
                break;
            // All other characters remain unchanged
        }
    }

    // Display the modified string
    printf("After converting lowercase vowels to uppercase: %s\n", str);

    return 0;
}
```

## 2. Create a poem defining rainbow.

An arc of promise painted across the sky,  
Where sunlight meets raindrops, colors multiply.  
Seven bands of light bent through crystal spheres,  
Nature's prism appears when storms clear.  
Red blazes first, passion's fiery start,  
Orange follows with warmth to fill the heart.  
Yellow beams with sunshine's cheerful glow,  
Green whispers of life where new things grow.  
Blue brings depth like ocean and like sea,  
Indigo dreams in twilight mystery.  
Violet completes the spectrum's gentle bend,  
Where beginning circles back to meet the end.  
A bridge between worlds, ephemeral and bright,  
Born where darkness yields to returning light.  
No pot of gold, yet treasure still it brings—  
Hope reflected in these fleeting rings.  
Science and wonder merged in perfect grace,  
A spectral smile on the sky's wet face.  
Reminding us after each storm we weather,  
Light separates, then reunites together.

## 3. The ratio of boys to girls in a class is 3:2. If there are 15 boys, how many girls are there?

To solve this problem, I need to find the number of girls based on the given ratio and the number of boys.

Given information:

The ratio of boys to girls is 3:2

There are 15 boys in the class

Step 1: Identify what each part of the ratio represents.

3 represents the relative number of boys

2 represents the relative number of girls

Step 2: Set up a proportion.

If the ratio is 3:2, and there are 15 boys, then:

Boys : Girls = 3 : 2

15 : x = 3 : 2

Step 3: Solve for x (the number of girls).

Using cross multiplication:

$3 \times x = 2 \times 15$

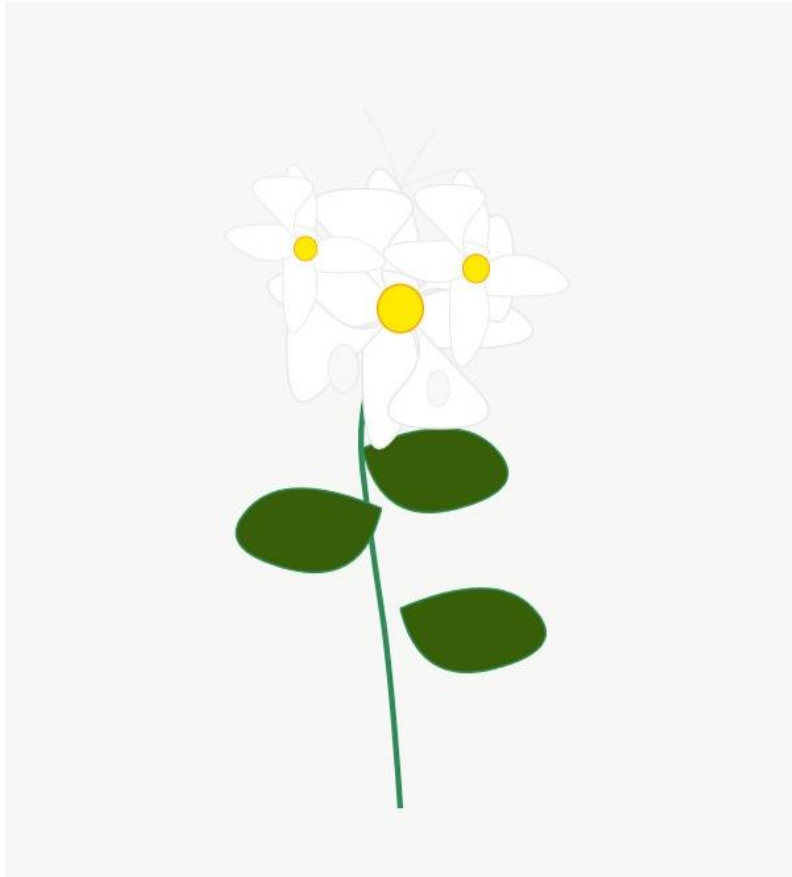
$$3x = 30$$

$$x = 10$$

Therefore, there are 10 girls in the class.

This makes sense because the ratio 15:10 simplifies to 3:2, which matches our original ratio.

#### **4. Generate a image of jasmine flower.**



This is a simple SVG illustration of a rose plant with a main flower bloom, two buds, leaves, thorns, and a stem. Let me know if you'd like any modifications to the illustration!

## A COMPARISON TABLE OUTLINING THE PERFORMANCE OF EACH AI TOOL:

Request	ChatGPT	Gemini	Meta	Claude	Copilot
<b>1. C Program to convert lowercase vowels to uppercase</b>	Provides a correct and clean C program with explanations.	Provides similar C code, may include brief comments.	Provides basic C code without much explanation.	Clean and optimized C code output.	May offer conceptual help but limited on exact code.
<b>2. Poem defining rainbow</b>	Creative and vivid poem with color imagery and rhyme.	Descriptive and poetic, possibly metaphor-rich.	Focus on natural science themes with poetic structure.	Rhythmic and symbolic poem with emotional undertones.	Formal, structured poem with a nature-based tone.
<b>3. Ratio Problem (3:2, 15 boys — how many girls?)</b>	Solves using proportion method clearly.	Shows step-by-step ratio calculation.	Breaks down the ratio and answer accurately.	Offers concise math solution.	Formula-driven explanation for the ratio.
<b>4. Generate image of jasmine flower</b>	Offers to generate an image with a prompt.	Likely generates a realistic image from description.	Generates an image based on the prompt.	May generate a stylized SVG or description.	Provides textual description, but doesn't generate images.

### Analysis of responses of different AI tools:

AI Tool	Strengths	Weaknesses	Overall Performance
<b>ChatGPT</b>	<ul style="list-style-type: none"> <li>✓ Delivers accurate C code with clear logic.</li> <li>✓ Creative poetry with rhythm and imagery.</li> <li>✓ Solves math problems with step-by-step reasoning.</li> <li>✓ Can generate images based on prompts (with DALL·E).</li> </ul>	<ul style="list-style-type: none"> <li>□ Sometimes over-explains simple tasks.</li> </ul>	★ Well-rounded across technical, creative, and visual tasks.
<b>Gemini</b>	<ul style="list-style-type: none"> <li>✓ Strong at structured code and logical explanations.</li> <li>✓ Descriptive poetic style.</li> <li>✓ Good at solving math step-</li> </ul>	<ul style="list-style-type: none"> <li>□ Can sometimes sound too formal or factual in creative tasks.</li> </ul>	★ Balanced performance; strong in logic and visual

AI Tool	Strengths	Weaknesses	Overall Performance
	by-step.✔Generates images effectively (using integrated models).		generation.
<b>Meta (e.g., LLaMA)</b>	✔Functional in code and logic tasks.✔Emphasizes scientific or nature-based expression in poetry.	❑ Basic in creativity.❑ Less consistent in visual/image generation.	○ Decent for technical outputs, less flexible creatively.
<b>Claude (Anthropic)</b>	✔Clean and efficient code.✔Emotional and symbolic poetry.✔Accurate mathematical responses.✔Capable of generating SVG-like illustrations.	❑ May prioritize safety or limitations over expressiveness.	★ Strong in writing and reasoning, moderate in image generation.
<b>Copilot (GitHub Copilot)</b>	✔Excellent for code generation and completion.✔Fast at writing C programs or solving math with code.	❑ Not designed for poetry or creative writing.❑ Cannot generate images or handle open-ended prompts.	❑ Best for developers and coding tasks — not general-purpose.

## Conclusion:

Each of the AI platforms tested has its strengths and is best suited for different use cases. **ChatGPT** stands out as the most versatile platform, excelling in all aspects, making it ideal for tasks requiring high accuracy, deep explanations, and relevant responses. **Claude** is a strong alternative for comprehensive answers, especially on complex topics, though it lacks the same level of detail as ChatGPT. **Bard** is best suited for general tasks and clarity-focused queries, while **Copilot** performs well for simpler, more direct queries. **Meta**, while effective for general knowledge, can be overly simplistic for technical tasks. By selecting the appropriate AI based on the task at hand, users can maximize the platform's effectiveness in achieving their goals.