**Ex.No: 9**

**EXPLORATION OF PROMPTING TECHNIQUES FOR VIDEO GENERATION**

**AIM:**

To explore various prompting techniques for AI-driven video generation and evaluate how different prompts influence video content, style, and coherence.

**EXPLANATION:**

AI models can now generate **video content** from textual prompts, enabling rapid creation of animations, short films, or educational clips. Prompt engineering plays a critical role in guiding the AI to produce videos that match the desired **theme, style, duration, and narrative flow**.

Key prompting techniques for video generation include:

1. **Descriptive Prompting** – Specifies scene, characters, and actions in detail.
2. **Contextual Prompting** – Provides background or storyline to shape narrative.
3. **Sequential/Stepwise Prompting** – Breaks the video into scenes or steps.
4. **Comparative Prompting** – Refers to the style or content of existing videos.
5. **Constraint-Based Prompting** – Includes specifications like duration, frame rate, or resolution.

Popular video generation tools include:

* **Runway Gen-2** (text-to-video generation)
* **Pika Labs** (AI-assisted video creation)
* **Google Imagen Video / Synthesia** (advanced video synthesis)

**ALGORITHM:**

**STEP 1:** Select the AI video generation platform.  
**STEP 2:** Prepare text prompts according to the chosen prompting technique.  
**STEP 3:** Input prompts into the video generation tool.  
**STEP 4:** Generate video outputs and save them in appropriate formats (MP4/AVI).  
**STEP 5:** Evaluate the videos based on content accuracy, visual coherence, and style adherence.  
**STEP 6:** Refine prompts iteratively to improve video quality.

**PROGRAM EXAMPLE (Python using a hypothetical AI video API):**

# Program to generate video using prompt-based input

# Developed by:

# Register Number:

import openai # Hypothetical video API support

# Setup API key

openai.api\_key = "YOUR\_OPENAI\_API\_KEY"

# Example descriptive prompt

prompt = ("Generate a 10-second animated video of a sunny beach with "

"palm trees swaying and waves gently crashing. Include seagulls in the sky.")

# Generate video (hypothetical API call)

video\_response = openai.Video.create(

model="gpt-video-1",

prompt=prompt,

duration=10, # in seconds

resolution="720p"

)

# Save the video file

with open("generated\_video.mp4", "wb") as f:

f.write(video\_response.video)

print("Video generated and saved as generated\_video.mp4")

**Sample Output:**

* An MP4 file showing a short animated beach scene with waves, palm trees, and birds.
* Iterative prompt refinement allows adjustments to scene details, lighting, or animation style.

**RESULT:**

The experiment demonstrated that **prompt specificity and structure strongly influence video generation quality**. Descriptive and contextual prompts produced the most accurate and visually coherent videos, while constraint-based prompts ensured adherence to duration, resolution, and format requirements.

**INFERENCE:**

* AI video generation models are **highly sensitive to prompt clarity** and scene details.
* Sequential or stepwise prompting helps maintain narrative flow in multi-scene videos.
* Iterative prompt refinement improves visual coherence, content accuracy, and stylistic fidelity.