**Title –** Building and Playing Games with ChatGPT and CodePen

**Concept -** AI-powered tools to generate code for Games

**Theory applied to experiment-** Students will learn how prompts in ChatGPT can be used to generate code for web-based projects. They will develop an understanding of basic programming outputs without having to write code themselves.

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| **Materials required** | **Hardware Requirements:**   |  |  | | --- | --- | | **Components** | **Quantity** | | Computer or laptop with internet access | 1 |   **Software Requirements:**   |  |  | | --- | --- | | **Components** | **Quantity** | | **Link**   * **ChatGPT**: Use [ChatGPT](https://chat.openai.com/) to generate code. * **CodePen**: Use [CodePen](https://codepen.io/) for UI development. | 1 | | Web browser (Google Chrome recommended) | 1 | |
| **Procedure** | **Refer this link**  YouTube link for ChatGPT -  <https://youtu.be/-fopYsgFdzc?si=3OCytdUtYP-0826O>  YouTube link for CodePen - <https://youtu.be/rYI8Nv6M1g8?si=ItGIxg9AHp-s9bU2> |
| **Procedure to be performed by student** | 1. **Access ChatGPT:**    * Open the link to ChatGPT in your browser.    * Sign up or log in to your account if required. 2. **Start a New Project:**    * Go to CodePen and create a new pen.    * Choose the appropriate project type (game) based on the task. 3. **Enter Prompt:**    * In ChatGPT, type a specific prompt to generate the code (e.g., "Generate HTML and JavaScript code for a simple Snake game where the snake eats dots to grow and loses if it touches the border"). 4. **Copy the Code:**    * Once you receive the code, copy it. 5. **Paste in CodePen:**    * In CodePen, paste the HTML code in the HTML panel and the JavaScript code in the JavaScript panel. 6. **Customize:**    * Review the code and make any necessary adjustments.    * You can tweak colors, layouts, or functions to suit your project. 7. **Preview and Save:**    * Click "Run" to see the result in the preview section.    * Once satisfied, save the project in CodePen.   **Use Cases**  **Use Case 1: Simple Tic Tac Toe Game**   * **Prompt:** "Generate HTML and JavaScript code for a Tic Tac Toe game." * **Steps:**   1. Start a new pen in CodePen.   2. Input the Tic Tac Toe prompt in ChatGPT.   3. Copy the generated code and paste it into CodePen.   4. Test the game by running it in CodePen.   5. Save the game and share it with friends.   **Use Case 2: Snake Game**   * **Prompt:** "Generate HTML and JavaScript code for a simple Snake game where the snake eats dots to grow and loses if it touches the border." * **Steps:**   1. Start a new pen in CodePen.   2. Input the Snake game prompt in ChatGPT.   3. Copy the generated code and paste it into CodePen.   4. Customize the snake's speed, color, or the size of the dot if needed.   5. Test the game by running it in CodePen, ensuring the snake grows when it eats the dot and loses when it touches the border.   6. Save the game and share it with friends   **Use Case 3: Animated Greeting Card**   * **Prompt:** "Generate code for an animated greeting card with falling snow and a holiday message." * **Steps:**   1. Start a new pen in CodePen.   2. Input the greeting card prompt in ChatGPT.   3. Copy the generated code and paste it into CodePen.   4. Customize the holiday message in the code.   5. Preview and save the animation. |
| **Observation /analysis** | * Students will observe how ChatGPT generates code outputs based on different prompts. * They will analyze the ease of customization and how prompts shape the generated content. |
| **Conclusion** | ChatGPT can generate more than just text! With the right prompts, it can produce code for games and interactive experiences. This experiment shows students the power of AI in creating various outputs based on simple inputs. |
| **Experiment takeaways** | * AI can generate various types of creative and functional outputs, including websites, games, and animations. * Students can explore fun ways to create interactive experiences by just using prompts. * ChatGPT simplifies complex coding tasks, allowing students to focus on creativity. |
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