**1.List out the features of HTML5.**

**Answer:**

HTML5 introduced several new features and improvements over its predecessors, aimed at enhancing the web development experience, providing more interactive and multimedia-rich content, and improving accessibility and performance. Here are some of the key features of HTML5:

### **1. New Semantic Elements**

* <header>, <footer>, <article>, <section>, <nav>, <aside>, <main>
* These elements provide more meaningful structure to the HTML documents.

### **2. Multimedia Elements**

* <audio> and <video>
* Native support for audio and video without requiring plugins like Flash.

### **3. Graphics and Multimedia**

* <canvas>: A drawing area for graphics and animations using JavaScript.
* <svg>: Scalable Vector Graphics for drawing shapes and images.

### **4. Form Enhancements**

* New input types: date, time, email, url, number, range, search, tel, color
* New attributes: placeholder, required, autofocus, pattern, multiple, min, max, step

### **5. APIs for Enhanced Functionality**

* Geolocation API: To access the geographical location of the user.
* Web Storage API: localStorage and sessionStorage for storing data on the client-side.
* Web Workers API: For running scripts in the background.
* Web Sockets API: For real-time communication between the client and server.
* Drag and Drop API: Enabling drag-and-drop functionality.

### **6. Improved Accessibility**

* ARIA (Accessible Rich Internet Applications) roles and properties for better accessibility support.

### **7. Offline Capabilities**

* Application Cache: Allows web applications to run offline.

### **8. Enhanced JavaScript APIs**

* New APIs such as the File API for handling file uploads and operations.

### **9. Performance Improvements**

* Optimized parsing and rendering engine for better performance and speed.

### **10. Deprecated Elements and Attributes**

* Elements like <font>, <center>, <big>, <strike>, and attributes like align, bgcolor, border are deprecated in favor of CSS for styling and layout.

### **11. Compatibility**

* HTML5 is designed to be backward compatible with older HTML versions, allowing existing content to function correctly.

### **12. Microdata**

* Embedding machine-readable data in HTML documents using custom vocabularies.

### **13. New Document Type Declaration**

* Simplified doctype declaration: <!DOCTYPE html>

### **14. Cross-Document Messaging**

* postMessage API for communication between documents from different origins.

### **15. Native Support for JSON**

* JSON is natively supported for data interchange.

These features collectively make HTML5 a robust and versatile language for building modern web applications, providing richer user experiences, better performance, and improved accessibility.