JAVASCRIPT MINI PROJECT :

1) STOPWATCH

**JAVASCRIPT Code:**

**class Stopwatch {**

**constructor(display, results) {**

**this.running = false;**

**this.display = display;**

**this.results = results;**

**this.laps = [];**

**this.reset();**

**this.print(this.times);**

**}**

**reset() {**

**this.times = [ 0, 0, 0 ];**

**}**

**start() {**

**if (!this.time) this.time = performance.now();**

**if (!this.running) {**

**this.running = true;**

**requestAnimationFrame(this.step.bind(this));**

**}**

**}**

**lap() {**

**let times = this.times;**

**let li = document.createElement('li');**

**li.innerText = this.format(times);**

**this.results.appendChild(li);**

**}**

**stop() {**

**this.running = false;**

**this.time = null;**

**}**

**restart() {**

**if (!this.time) this.time = performance.now();**

**if (!this.running) {**

**this.running = true;**

**requestAnimationFrame(this.step.bind(this));**

**}**

**this.reset();**

**}**

**clear() {**

**clearChildren(this.results);**

**}**

**step(timestamp) {**

**if (!this.running) return;**

**this.calculate(timestamp);**

**this.time = timestamp;**

**this.print();**

**requestAnimationFrame(this.step.bind(this));**

**}**

**calculate(timestamp) {**

**var diff = timestamp - this.time;**

**// Hundredths of a second are 100 ms**

**this.times[2] += diff / 10;**

**// Seconds are 100 hundredths of a second**

**if (this.times[2] >= 100) {**

**this.times[1] += 1;**

**this.times[2] -= 100;**

**}**

**// Minutes are 60 seconds**

**if (this.times[1] >= 60) {**

**this.times[0] += 1;**

**this.times[1] -= 60;**

**}**

**}**

**print() {**

**this.display.innerText = this.format(this.times);**

**}**

**format(times) {**

**return `\**

**${pad0(times[0], 2)}:\**

**${pad0(times[1], 2)}:\**

**${pad0(Math.floor(times[2]), 2)}`;**

**}**

**}**

**function pad0(value, count) {**

**var result = value.toString();**

**for (; result.length < count; --count)**

**result = '0' + result;**

**return result;**

**}**

**function clearChildren(node) {**

**while (node.lastChild)**

**node.removeChild(node.lastChild);**

**}**

**let stopwatch = new Stopwatch(**

**document.querySelector('.stopwatch'),**

**document.querySelector('.results'));**