# Solutions-Exercise: Objects and JSON, DOM Events

## 1.Shopping Cart

function solve() {

let products = {};

let textareaElement = document.getElementsByTagName('textarea')[0];

for (let i = 0; i < 3; i++) {

let productDiv = document.getElementsByClassName('product')[i];

let productName = productDiv.children[1].innerHTML;

let productPrice = Number(productDiv.children[2].innerHTML.split(' ')[1]);

document.getElementsByTagName('button')[i].addEventListener('click', () => {

textareaElement.value += `Added ${productName} for ${productPrice.toFixed(2)} to the cart.\n`;

if (!products.hasOwnProperty(productName)) {

products[productName] = 0;

}

products[productName] += productPrice;

})

}

document.getElementsByTagName('button')[3].addEventListener('click', () => {

let productsList = [];

let totalPrice = 0;

for (let productName in products) {

if (!productsList.includes(productName)) {

productsList.push(productName);

}

totalPrice += products[productName];

}

textareaElement.value += `You bought ${productsList.join(', ')} for ${totalPrice.toFixed(2)}.\n`;

})

}

function solve() {

let products = [];

for (let i = 0; i < 3; i++) {

let element = document.getElementsByClassName('product')[i];

let name = element.children[1].innerHTML;

let price = +element.children[2].innerHTML.split(' ')[1];

document.getElementsByTagName('button')[i].addEventListener('click', () => {

products.push({name, price});

let textarea = document.getElementsByTagName('textarea')[0];

textarea.value += `Added ${name} for ${price.toFixed(2)} to the cart.\n`;

})

}

document.getElementsByTagName('button')[3].addEventListener('click', () => {

let list = products.map(p => p.name).filter((el, idx, arr) => {

if (arr.indexOf(el) === idx) {

return el;

}

});

let totalPrice = products.reduce((a, b) => {

return a.price + b.price;

}, 0);

let textarea = document.getElementsByTagName('textarea')[0];

textarea.value += `You bought ${list.join(', ')} for ${totalPrice.toFixed(2)}.\n`;

})

}

function solve() {

let buttonsArr = Array.from(document.querySelectorAll('button'))

let [goodsObj, totalSum] = [{}, 0]

for (let i = 0; i < buttonsArr.length; i++) {

if (i == buttonsArr.length - 1) {

buttonsArr[i].addEventListener('click', event => {

let printArea = document.querySelectorAll('div textarea')[0];

let goodsBought = Object.keys(goodsObj).join(', ');

printArea.textContent += `You bought ${goodsBought} for ${totalSum.toFixed(2)}.\n`;

});

} else {

buttonsArr[i].addEventListener('click', event => {

let goods = document.querySelectorAll('div [class="product"] p');

let [good, price] = [goods[i \* 2].textContent, goods[i \* 2 + 1].textContent.split(' ')[1]]

let printSeq = `Added ${good} for ${price} to the cart.`

goodsObj.hasOwnProperty(good) ? goodsObj[good] += +price : goodsObj[good] = +price;

let printArea = document.querySelectorAll('div textarea')[0];

printArea.textContent += printSeq + '\n';

totalSum += +price

});

}

}

}

## 2.Furniture

function solve() {

let furnitureListElement = document.getElementById('furniture-list');

let generateButton = document.getElementsByTagName('button')[0];

generateButton.addEventListener('click', () => {

let furnitureList = JSON.parse(document.getElementsByTagName('textarea')[0].value);

for (let furniture of furnitureList) {

let div = document.createElement('div');

div.setAttribute('class', 'furniture');

let nameP = document.createElement('p');

nameP.innerHTML = 'Name: ' + furniture.name;

div.appendChild(nameP);

let img = document.createElement('img');

img.setAttribute('src', furniture.img);

div.appendChild(img);

let priceP = document.createElement('p');

priceP.innerHTML = 'Price: ' + furniture.price;

div.appendChild(priceP);

let decorationFactorP = document.createElement('p');

decorationFactorP.innerHTML = 'Decoration factor: ' + furniture.decFactor;

div.appendChild(decorationFactorP);

let checkbox = document.createElement('input');

checkbox.setAttribute('type', 'checkbox');

div.appendChild(checkbox);

//document.getElementById('furniture-list').appendChild(div);

furnitureListElement.appendChild(div);

}

})

let buyButton = document.getElementsByTagName('button')[1];

buyButton.addEventListener('click', () => {

let boughtFurnitures = [];

let totalPrice = 0;

let decorationFactors = [];

//let furnitureArray = Array.from(document.getElementById('furniture-list').children);

let furnitureArray = Array.from(furnitureListElement.children);

for (let furniture of furnitureArray) {

let isChecked = furniture.getElementsByTagName('input')[0].checked;

if (isChecked) {

let furnitureName = furniture.getElementsByTagName('p')[0].innerHTML.split(': ')[1];

boughtFurnitures.push(furnitureName);

let price = Number(furniture.getElementsByTagName('p')[1].innerHTML.split(': ')[1]);

totalPrice += price;

let decorationFactor = Number(furniture.getElementsByTagName('p')[2].innerHTML.split(': ')[1]);

decorationFactors.push(decorationFactor);

}

}

let textareaElement = document.getElementsByTagName('textarea')[1];

textareaElement.value += `Bought furniture: ${boughtFurnitures.join(', ')}\n`;

textareaElement.value += `Total price: ${totalPrice.toFixed(2)}\n`;

let averageDecorationFactor = decorationFactors.reduce((a, b) => a + b) / decorationFactors.length;

textareaElement.value += `Average decoration factor: ${averageDecorationFactor}`;

})

}

function solve() {

let generateBtn = document.getElementsByTagName('button')[0];

let buyBtn = document.getElementsByTagName('button')[1];

generateBtn.addEventListener('click', generate);

buyBtn.addEventListener('click', buy);

function createPar(string) {

let p = document.createElement('p');

p.textContent = string;

return p;

}

function createEl(type, attr, value) {

let typeEl = document.createElement(type);

typeEl.setAttribute(attr, value);

return typeEl;

}

function addToDiv(arr) {

for (let product of arr) {

let divEl = document.getElementById('furniture-list');

let divProduct = createEl('div', 'class', 'furniture');

divProduct.appendChild(createPar(`Name: ${product.name}`));

divProduct.appendChild(createEl('img', 'src', arr.img));

divProduct.appendChild(createPar(`Price: ${product.price}`));

divProduct.appendChild(createPar(`Decoration factor: ${product.decFactor}`));

divProduct.appendChild(createEl('input', 'type', 'checkbox'));

divEl.appendChild(divProduct);

}

}

function generate() {

let productArr = JSON.parse(document.getElementsByTagName('textarea')[0].value);

addToDiv(productArr);

}

function buy() {

let furnItems = Array.from(document.querySelectorAll('#furniture-list [class="furniture"]'))

let [boughtItems, totalPrice, factor, count] = [[], 0, 0, 0];

for (let product of furnItems) {

if (product.children[4].checked) {

boughtItems.push(product.children[0].textContent.split(': ')[1]);

totalPrice += +product.children[2].textContent.split(': ')[1];

factor += +product.children[3].textContent.split(': ')[1];

count += 1;

}

}

let outputArea = document.getElementsByTagName('textarea')[1];

outputArea.textContent += `Bought furniture: ${boughtItems.join(', ')}\n`;

outputArea.textContent += `Total price: ${totalPrice.toFixed(2)}\n`;

outputArea.textContent += `Average decoration factor: ${factor / count}`;

}

}

function solve() {

let someList = [];

let totalPrice = 0;

let decFactors = [];

document.getElementsByTagName('button')[0].addEventListener('click', () => {

let furnitureList = JSON.parse(document.getElementsByTagName('textarea')[0].value);

for (let furniture of furnitureList) {

let div = document.createElement('div');

div.setAttribute('class', 'furniture');

let name = document.createElement('p');

name.innerHTML = `Name: ${furniture.name}`;

let img = document.createElement('img');

img.setAttribute('src', furniture.img);

let price = document.createElement('p');

price.innerHTML = `Price: ${furniture.price}`;

let decFactor = document.createElement('p');

decFactor.innerHTML = `Decoration factor: ${furniture.decFactor}`;

let checkbox = document.createElement('input');

checkbox.setAttribute('type', 'checkbox');

div.appendChild(name);

div.appendChild(img);

div.appendChild(price);

div.appendChild(decFactor);

div.appendChild(checkbox);

document.getElementById('furniture-list').appendChild(div);

}

})

document.getElementsByTagName('button')[1].addEventListener('click', () => {

let array = Array.from(document.getElementById('furniture-list').children);

for (let furniture of array) {

let isChecked = furniture.getElementsByTagName('input')[0].checked;

if (isChecked) {

let name = furniture.getElementsByTagName('p')[0].innerHTML.split(': ')[1];

someList.push(name);

let price = +furniture.getElementsByTagName('p')[1].innerHTML.split(': ')[1];

totalPrice += price;

let decFactor = +furniture.getElementsByTagName('p')[2].innerHTML.split(': ')[1];

decFactors.push(decFactor);

}

}

let textarea = document.getElementsByTagName('textarea')[1];

textarea.value += `Bought furniture: ${someList.join(', ')}\n`;

textarea.value += `Total price: ${totalPrice.toFixed(2)}\n`;

let averageDecFac = decFactors.reduce((a, b) => a + b) / decFactors.length;

textarea.value += `Average decoration factor: ${averageDecFac}`;

})

}

## 3.Forum

function solve() {

let submitButton = document.getElementsByTagName('button')[0];

submitButton.addEventListener('click', (event) => {

event.preventDefault();

let user = {

username: document.getElementsByClassName('user-info')[0].children[1].value,

email: document.getElementsByClassName('user-info')[0].children[5].value,

topics: Array.from(document.getElementsByClassName('topics')[0].children).filter(ch => ch.checked).map(ch => ch.value)

}

let tr = document.createElement('tr');

let tdUsername = document.createElement('td');

tdUsername.innerHTML = user.username;

tr.appendChild(tdUsername);

let tdEmail = document.createElement('td');

tdEmail.innerHTML = user.email;

tr.appendChild(tdEmail);

let tdTopics = document.createElement('td');

tdTopics.innerHTML = user.topics.join(' ');

tr.appendChild(tdTopics);

document.getElementsByTagName('tbody')[0].appendChild(tr);

});

let searchButton = document.getElementsByTagName('button')[1];

searchButton.addEventListener('click', () => {

let searched = document.getElementsByTagName('input')[7].value;

let tds = Array.from(document.querySelectorAll('table tbody tr td'));

for (let td of tds) {

td.parentNode.style.visibility = 'hidden';

}

for (let td of tds) {

if (td.textContent.includes(searched)) {

td.parentNode.style.visibility = 'visible';

}

}

})

}

function solve() {

document.getElementsByTagName('button')[0].addEventListener('click', (event) => {

event.preventDefault();

let user = {

username: document.getElementsByClassName('user-info')[0].children[1].value,

email: document.getElementsByClassName('user-info')[0].children[5].value,

topics: Array.from(document.getElementsByClassName('topics')[0].children).filter(el => el.checked).map(el => el.value)

}

let tr = document.createElement('tr');

let tdUsername = document.createElement('td');

tdUsername.innerHTML = user.username;

let tdEmail = document.createElement('td');

tdEmail.innerHTML = user.email;

let tdTopics = document.createElement('td');

tdTopics.innerHTML = user.topics.join(' ');

tr.appendChild(tdUsername);

tr.appendChild(tdEmail);

tr.appendChild(tdTopics);

document.getElementsByTagName('tbody')[0].appendChild(tr);

});

document.getElementsByTagName('button')[1].addEventListener('click', () => {

let str = document.getElementsByTagName('input')[7].value;

let tds = Array.from(document.querySelectorAll('table tbody tr td'));

for (let td of tds) {

td.parentNode.style.visibility = 'hidden';

}

for (let td of tds) {

if (td.textContent.includes(str)) {

td.parentNode.style.visibility = 'visible';

}

}

})

}

## 4.Salesman

function solve() {

let storage = {};

let profit = 0;

let loadButton = document.getElementsByTagName('button')[0];

loadButton.addEventListener('click', load);

let buyButton = document.getElementsByTagName('button')[1];

buyButton.addEventListener('click', buy);

let endDayButton = document.getElementsByTagName('button')[2];

endDayButton.addEventListener('click', endDay);

let logTextarea = document.getElementsByTagName('textarea')[2];

function load(){

let loadedProducts = JSON.parse(document.getElementsByTagName('textarea')[0].value);

for(let product of loadedProducts){

if(!storage.hasOwnProperty(product.name)){

storage[product.name] = {

price: product.price,

quantity: product.quantity

}

} else {

storage[product.name].quantity += product.quantity;

}

logTextarea.value += `Successfully added ${product.quantity} ${product.name}. Price: ${product.price}\n`;

}

}

function buy(){

let product = JSON.parse(document.getElementsByTagName('textarea')[1].value);

if(storage.hasOwnProperty(product.name) && storage[product.name].quantity >= product.quantity){

storage[product.name].quantity -= product.quantity;

document.getElementsByTagName('textarea')[2].value += `${product.quantity} ${product.name} sold for ${product.quantity \* storage[product.name].price}.\n`;

profit += product.quantity \* storage[product.name].price;

} else {

logTextarea.value += 'Cannot complete order.\n'

}

}

function endDay(){

logTextarea.value += `Profit: ${profit.toFixed(2)}.\n`;

loadButton.removeEventListener('click', load);

buyButton.removeEventListener('click', buy);

endDayButton.removeEventListener('click', endDay);

}

}

function solve() {

let storage = {};

let profit = 0;

document.getElementsByTagName('button')[0].addEventListener('click', add);

document.getElementsByTagName('button')[1].addEventListener('click', buy);

document.getElementsByTagName('button')[2].addEventListener('click', endDay);

function add() {

let val = JSON.parse(document.getElementsByTagName('textarea')[0].value);

for (let item of val) {

if (!storage.hasOwnProperty(item.name)) {

storage[item.name] = {

price: item.price,

quantity: item.quantity

}

} else {

storage[item.name] = {

price: item.price,

quantity: storage[item.name].quantity + item.quantity

}

}

document.getElementsByTagName('textarea')[2].value += `Successfully added ${item.quantity} ${item.name}. Price: ${item.price}\n`;

}

console.log(storage);

}

function buy() {

let product = JSON.parse(document.getElementsByTagName('textarea')[1].value);

if (storage.hasOwnProperty(product.name) && storage[product.name].quantity >= product.quantity) {

storage[product.name].quantity -= product.quantity;

document.getElementsByTagName('textarea')[2].value += `${product.quantity} ${product.name} sold for ${product.quantity \* storage[product.name].price}.\n`;

profit += product.quantity \* storage[product.name].price;

} else {

document.getElementsByTagName('textarea')[2].value += "Cannot complete order.\n";

}

}

function endDay() {

document.getElementsByTagName('textarea')[2].value += `Profit: ${profit.toFixed(2)}.\n`;

document.getElementsByTagName('button')[0].removeEventListener('click', add);

document.getElementsByTagName('button')[1].removeEventListener('click', buy);

document.getElementsByTagName('button')[2].removeEventListener('click', endDay);

}

}