**JS Advanced Exam**

**Problem 3. Unit Testing**

**Your Task**

Using **Mocha** and **Chai** write **JS Unit Tests** to test a variable named **Lottery**, which represents an object. You may use the following code as a template:

|  |
| --- |
| describe(**"*Tests* …"**, **function**() {  describe(**"*TODO* …"**, **function**() {  ***it***(**"*TODO …*"**, **function**() {  *//* ***TODO:*** …  });  });  *//* ***TODO:*** …  }); |

The object that should have the following functionality:

* **buyLotteryTicket (ticketPrice,ticketCount,buy) -** A function that accepts **three** parameters: **number**, **number**, and **boolean**.
* There is a **need for validation** for the input, in case of submitted **invalid** parameters, **throw** an error **"Invalid input!"**
* If the value of the boolean **buy** is **false**, **throw** an error:

**"Unable to buy lottery ticket!"**

* To be valid, the **ticket purchase** must meet the **following requirement**:
  + If the **ticketPrice** is **greater** than **0**, and **ticketCount** is **greater** or **equal** to **1, a**nd the type of **ticketPrice** and **ticketCount**  **is number, return** the string:

**"You bought ${ticketCount} tickets for ${totalPrice}$."** ,

where **totalPrice** is **ticketPrice** multiplied by **ticketCount**.

* **checkTicket (ticketNumbers,luckyNumbers) -** A function that accepts two parameters: **array** and **array.**
  + There is a **need for validation** for the input, in case of submitted **invalid** parameters, **throw** an error **"Invalid input!"**
  + To be valid, the **ticket** must meet the **following requirement**:
    - Both **ticketNumbers** and **luckyNumbers** must be **arrays** with exact length of **6** numbers inside.
  + After validation the function compares the numbers from the ticket with the winning numbers.
    - If there is **from** **3** **to** **5** winning numbers in the ticket, **return** the following message:

**"Congratulations you win, check your reward!"**

* + - If **all 6** are winning numbers, **return** the following message:

**"You win the JACKPOT!!!"**

* **secondChance (ticketID, secondChanceWinningIDs) -** A function that accepts two parameters: **number** and **array**.
  + There is a **need for validation** for the input, in case of submitted **invalid** parameters, **throw** an error **"Invalid input!"**
  + To be valid, the **ticket** must meet the **following requirement**:
* **ticketID** must befrom type **number.**
* **secondChanceWinningIDs** must be **array**.
* After validation the function checks whether the **ticketID** is included in the **secondChanceWinningIDs** array.
  + If there is a match, **return** the following message:

**"You win our second chance prize!"**

* + Else, **return** the following message:

**"Sorry, your ticket didn't win!"**

**JS Code**

To ease you in the process, you are provided with an implementation that meets all of the specification requirements for the **Lottery** object:

|  |
| --- |
| Lottery.js |
| const lottery = {    buyLotteryTicket(ticketPrice, ticketCount, buy) {      if (buy === false) {        throw new Error("Unable to buy lottery ticket!");      } else {        if (          ticketPrice <= 0 ||          ticketCount < 1 ||          typeof ticketPrice !== "number" ||          typeof ticketCount !== "number"||          typeof buy !== "boolean"        ) {          throw new Error("Invalid input!");        } else {          let totalPrice = ticketPrice \* ticketCount;          return `You bought ${ticketCount} tickets for ${totalPrice}$.`;        }      }    },   checkTicket(ticketNumbers, luckyNumbers) {      if (        !Array.isArray(ticketNumbers) ||        !Array.isArray(luckyNumbers) ||        ticketNumbers.length !== 6 ||        luckyNumbers.length !== 6      ) {        throw new Error("Invalid input!");      }        const uniqueTicketNumbers = ticketNumbers.filter(        (number, index, array) => array.indexOf(number) === index      );      let winningNumbers = 0;        for (const number of uniqueTicketNumbers) {        if (luckyNumbers.includes(number)) {          winningNumbers++;        }      }        if (winningNumbers >= 3 && winningNumbers < 6) {        return "Congratulations you win, check your reward!";      } else if (winningNumbers === 6) {        return "You win the JACKPOT!!!";      }    }    ,    secondChance(ticketID, secondChanceWinningIDs) {      if (typeof ticketID !== "number" || !Array.isArray(secondChanceWinningIDs)) {        throw new Error("Invalid input!");      }      if (secondChanceWinningIDs.includes(ticketID)) {        return "You win our second chance prize!";      } else {        return "Sorry, your ticket didn't win!";      }    },  };  module.exports = lottery; |

**Submission**

Submit your tests inside a **describe()** statement, as shown above.