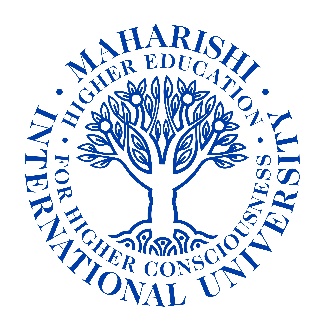
**0**

**Assignment#3 – Problem Decomposition**

**Write the code for the following questions:**

**Question 2)** Write a program that will ask the user to enter a name and a letter. If the name starts with the letter, it should print ‘true’, else it should print ‘false’. (This question requires a basic if statement)

**Answer:**

let name = prompt("Please enter the your name:");

let letter = prompt("Please enter the letter");

if(name.charAt(0) == letter){

console.log("True")

}else{

console.log("false")

}

**Only write the processes for these questions**

**Question 3)** Write a program that will ask the user to enter a number ‘target’. It should roll a dice and if the result (dice) is equal to the selected target, it should print “You Won!”, if not, “You Lost”).

**Answer:**

**//get the target number from the user input prompt**

let number = parseInt(prompt("Please enter the number target:"));

// generate the random number upto 6

let result = (Math.random() \* 6) + 1**;// dice roll from 1 to 6**

**//compare number and result**

if (number == result) {

//Desplaying the result

console.log("Congratulation. You Won!");

} else {

//**Displaying the result**

console.log("Sorry Better

Luck Next Time. You Lost!");

}

**Question 4)** Write a program that will ask a user to enter a letter. It should traverse through a list of names (Defined in code) and count how many names have at least one occurrence of the letter.

**Answer:**

**//Get the input letter from the user**

let letter = prompt("Please enter the letter:");

**//get the list of names**

let nameList = ["Suresh", "Rojin", "Aakash", "Pawan", "Dean"];

//Initializing the counter

let countNames = 0;

**//using the nested for loop**

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

let name = nameList[i];

let letterMatch = 0;

for(let j = 0; j<nameList.length; j++){

if(name[j].toUpperCase() === letter){

letterMatch++

break; }

}

if(letterMatch >0){

countNames++;

}

}

**//displaying the name count**

console.log(countNames);

**Question 5)** Write a program that takes a list of grades and returns the pass rate for those grades. The passing grade is greater or equal to 70.

**Answer:**

**// get the list of grades**

let gradeLists = ["85","90","65","68","60","70"];

**//initializing the couner**

let count = 0;

**//travsrse through the grade**

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

**//Comparing the given grade individually with passing grade.**

if(gradeLists[i] >= 70){

count++

}

}

**//calculating the pass rate**

let passRate = (count/gradeLists.length)\*100;

**//displaying the passing Rate**

console.log("The passing rate among the given list of grate is:" +" " +passRate +"%");

**Question 1)** Write a program that will ask the user to enter 3 names separated by a comma ‘,’. It should print each name in a new line. (This question requires string operations)

**Answer:**

**//get the 3 name separated by comma**

let names = prompt("Please enter the 3 names separated by comma:");

// Ram, shyam, Hari

**//seperate the each name by comma**

let nam = names.split(',');

**//loop through the nam**

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

//**Displaying the separate name in new line**

console.log(nam[i].trim());

}

**let names = prompt("Please enter the name separated by comma:");**

**let name = names.split(',');**

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

**console.log(name[i].trim());**

**}**

**EXTRA DOSE**

1. **Write a program that ask the user to enter a target to search in**
2. **a list of names. The output should be the number of occurrences**
3. **of that target**
4. **//get the target from the user**
5. let target = prompt("Please enter the terget name:")
6. **// get the lists fo name**
7. let nameLists = ["Suresh", "Ritu", "Bamma", "Shah", "Bamma"]
8. **//get the counter**
9. let count = 0;
10. **//transverse through tha list of names**
11. for(let i = 0; i<nameLists.length; i++){
12. if( target == nameLists[i]){
13. count++;
14. }
15. }
16. **//displaying the results**
17. if(count>0){
18. console.log(count);
19. }else{
20. console.log("Target is not found!");
21. }

**Example-1:** Write a program that will ask the user for the radius of a circle and calculate the area

// Get the radius from the user

var radiusInput = prompt("Enter the radius of the circle:");

// Convert the user input to a number

var radius = parseFloat(radiusInput);

// Calculate the area of the circle

var area = Math.PI \* Math.pow(radius, 2);

// Display the calculated area

console.log("The area of the circle with radius " + radius + " is " + area.toFixed(2));

**Example-2: Write a program that will ask the user to enter the first and last**

**name and print out the initials**

// Get the user's first name

var firstName = prompt("Enter your first name:");

// Get the user's last name

var lastName = prompt("Enter your last name:");

// Extract the first initial from the first name

var firstInitial = firstName.charAt(0);

// Extract the first initial from the last name

var lastInitial = lastName.charAt(0);

// Combine the initials to form the full initials

var initials = firstInitial + lastInitial;

// Display the user's initials

Console.log("Your initials are: " + initials);

**Example-3:** **Write a program that will ask the user to input a number *n*, an flip a coin *n* times and count how many heads occured.**

// Get the number of coin flips from the user

var n = parseInt(prompt("Enter the number of coin flips:"));

// Initialize a variable to count the number of heads

var headsCount = 0;

// Perform the coin flips – n times

for (var i = 0; i < n; i++) {

if (Math.floor(Math.random() \* 2) === 1) {

// If the result of the coin flip is 1, it's a head

headsCount++;

}

}

// Display the results

alert("Out of " + n + " coin flips, there were " + headsCount + " heads.");

**Example-4:** Write a program that ask the user to enter a ***target*** to search in

a list of names. The output should be the number of occurrences of that target

// List of names to search within

var names = ["Alice", "Bob", "Charlie", "David", "Alice", "Eve", "Frank", "Alice"];

// Get the target name from the user

var target = prompt("Enter a name to search for:");

// Initialize a variable to count occurrences

var count = 0;

// Loop through the names and count occurrences

for (var i = 0; i < names.length; i++) {

// Compare if target is equal to name

if (names[i] === target) {

count++;

}

}

// Display the number of occurrences

alert("The name '" + target + "' occurs " + count + " times in the list.");