# **Assignments**

| 1. Write a menu driven program to do the basic mathematical operations such as addition, subtraction, multiplication and division (**hint**: use if else ladder or switch) 2. Program should have 4 functions named addition(), subtraction(), multiplication() and division() 3. Should create a class object and call the appropriate function as user prefers in the main function |
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| *Code of the program & screenshot of the output.* |
| 2. Write an object oriented program to store and display the values of a 2D array   * 1. Program should contains 3 functions including the main function   **main()**   1. Declare an array 2. Call function getArray() 3. Call function displayArray()   **getArray()**   1. Get values to the array   **displayArray()**   1. Display the array values   Eg:  Enter the size of array  3  Enter the array values  1 2 3  4 5 6  7 8 9  Array elements are:  1 2 3  4 5 6  7 8 9 |
| *Code of the program & screenshot of the output* |
| 3. write a menu driven program to calculate the area of a given object.   * 1. Program should contain two classes      1. Class 1: MyClass      2. Class 2: Area   2. Class MyClass should inherit class Area and should contain the following functions      1. main()      2. circle()      3. square()      4. rectangle()      5. triangle()   3. Class Area should contain the following functions to calculate the area of different objects      1. circle()      2. square()      3. rectangle()      4. triangle()   Class MyClass extends Area{  public static void main(string args[]){  }  circle() {  }  square() {  }  rectangle() {  }  triangle() {  }  }  Class Area{  circle(){  }  square(){  }  rectangle() {  }  triangle() {  }  }  Eg 1:  Enter your choice   1. Circle 2. Square 3. Rectangle 4. Triangle   2  Enter the length  2  Output  Area of the square is: 4  Eg 2:  Enter your choice   1. Circle 2. Square 3. Rectangle 4. Triangle   1  Enter the radius  3  Output  Area of the circle is: 28.26 |
| *Code of the program & screenshot of the output* |
| 4. Write a Javascript program to display the status (I.e. display book name, author name & reading status) of books. You are given an object library in the code's template. It contains a list of books with the above mentioned properties.Your task is to display the following:   * If the book is unread: You still need to read '<book\_name>' by <author\_name>. * If the book is read: Already read '<book\_name>' by <author\_name>.   var library = [  {  title: 'Bill Gates',  author: 'The Road Ahead',  readingStatus: true  },  {  title: 'Steve Jobs',  author: 'Walter Isaacson',  readingStatus: true  },  {  title: 'Mockingjay: The Final Book of The Hunger Games',  author: 'Suzanne Collins',  readingStatus: false  }  ]; |
| *Code of the program & screenshot of the output.* |
| 1. Given a variable named my\_string, *try* reversing the string using my\_string.split().reverse().join() and then print the reversed string to the console. If the *try* clause has an error, print the error message to the console. Finally, print the *typeof* of the my\_string variable to the console.   **Output format:**  The statement to print in the *try*block is:  ***Reversed string is : ${my\_string}***  The statement to print in the *catch*block is:  ***Error : ${err.message}***  The statement to print in the *finally* block is:  ***Type of my\_string is : ${typeof my\_string}***  Eg:  **a) Sample Input 0**  "1234"  **Sample Output 0**  Reversed string is : 4321  Type of my\_string is : string  **b) Sample Input 1**  Number(1234)  **Sample Output 1**  Error : my\_string.split is not a function  Type of my\_string is : number |
| *Code of the program & screenshot of the output.* |
| 1. Given a variable named userHeight, you must throw errors under the following   conditions:   * notANumberError- When userHeight is NaN * HugeHeightError – When userHeight is greater than 200 * TinyHeightError - When userHeight is less than 40   Eg:  **a) Sample Input 0**  test  **Sample Output 0**  notANumberError  **b) Sample Input 1**  250  **Sample Output 1**  hugeHeightError  **c) Sample Input 2**  0  **Sample Output 2**  tinyHeightError  **d) If userHeight is valid print ‘valid’** |
| *Code of the program & screenshot of the output.* |
| 1. Create a constructor function that satisfies the following conditions: 2. The name of the constructor function should be *Car*. 3. It should take three parameters: *name, mileage* and *max\_speed*. 4. Store these parameter values in their respective *this*keywords: *this.name, this.mileage* and *this.max\_speed*. |
| *Code of the program & screenshot of the output.* |
| 8. Write a myFilter function that takes 2 parameters: myArray and callback. Here, myArray is an array of numbers and callback is a function that takes the elements of myArray as its parameter and returns a boolean true if the sum of the number is even or false if the sum of the number is odd.  The myFilter function should return the sum of the array.   1. **Sample Input**   12345   1. **Sample Output**   15 |
| *Code of the program & screenshot of the output.* |

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| 1. Read the word “Crossroads” from the user and Print the word “Crossroads” Less Than 8 times without using any loop or goto statement. |
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| *Code of the program & screenshot of the output.* |
| 1. Write a Program for pattern shown below   1  1 1  1 2 1  1 2 3 1  1 2 3 4 1  1 2 3 4 5 1 |
| *Code of the program & screenshot of the output.* |
| 1. Write a program to compare two strings without using string functions. |
| *Code of the program & screenshot of the output.* |
| 1. Write a menu driven program to perform following Operations without using Library functions.    * + 1. STRING LENGTH        2. STRING CONCATENATION        3. STRING REVERSE 2. The program should not end until the user exits the program by giving an input to the program to exit. The menu Should contain an option to exit. 3. The program should Contain 4 Functions Excluding main():    1. STRINGLENGTH()    2. STRINGCONCATENATION()    3. STRINGREVERSE()    4. EXIT() |
| *Code of the program & screenshot of the output.* |
| 1. Write a Program to copy one string to another without using String Functions? |
| *Code of the program & screenshot of the output.* |
| 1. Read some Malayalam Movie Names from User And Sort it? |
| *Code of the program & screenshot of the output.* |
| 1. Write a program to read the string “India is my country” from the user and find the position of the word “is”? |
| *Code of the program & screenshot of the output.* |
| 1. Read random numbers [ 22,87,178,34,10,45,22,89,31] from user and sort numbers in descending Order? |
| *Code of the program & screenshot of the output.* |
| 1. Read a character from the user and find the ASCII code of that character? |
| *Code of the program & screenshot of the output.* |
| 1. Write a program to print the following pattern     A  A B A  A B C B A  A B C D C B A |
| *Code of the program & screenshot of the output.* |
| 1. Read some numbers from the user and find the repeating numbers?   Eg:  Input : 2 9 4 6 9 4  Output : 9 4 |
| *Code of the program & screenshot of the output.* |
| 1. Read a line of text from the user , Find the number of Alphabets, Digits and Special characters?   Eg,  Input : hello, Welcome to District B-13  Output :-  Number of Alphabets in the string is : 23  Number of Digits in the string is : 2  Number of Special characters in the string is : 7 |
| *Code of the program & screenshot of the output.* |
| 1. Read random numbers from the user, find the maximum number in the list of numbers?    1. Use at least one function    2. The function should return a value to main function |
| *Code of the program & screenshot of the output.* |
| 1. Read a random number (n) from the user and Generate nth Fibonacci    1. Must use Recursion |
| *Code of the program & screenshot of the output.* |
| 1. Write a program to print following pattern   \* \*  \* \* \* \*  \* \* \* \* \* \*  \* \* \* \* \* \* \* \*  \* \* \* \* \* \* \* \* \* \*  \* \* \* \* \* \* \* \* \* \* \* \*  \* \* \* \* \* \* \* \* \* \* \* \* \* \*  \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*  \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* |
| *Code of the program & screenshot of the output.* |
| 1. It's your first day at school. Your teacher asked the students to meet every other student in the class and to introduce themselves. The teacher asked them to do handshakes when they meet each other.     If there are n number of students in the class then find the total number of handshakes made by the students.  Program to find the maximum number of handshakes is discussed here. Given a positive integer n, find out the total number of handshakes possible.  Eg,  Input : 15 // Total Number of students  Output :105 //Maximum Number of Handshakes |
| *Code of the program & screenshot of the output.* |
| 1. Read two numbers from the user and swap those two numbers using Pointer. |
| *Code of the program & screenshot of the output.* |
| 1. Convert the lowercase characters in a word into uppercase   Eg,  Input : Hello  Output : HELLO |
| *Code of the program & screenshot of the output.* |
| 1. Write a program to calculate the charge for parcel:   If the weight of the parcel is less than 500gm or equal to 500gm then the parcel charge will be Rs. 200, Otherwise there is an additional charge of Rs.170 per each extra 500gm |
| *Code of the program & screenshot of the output.* |
| 1. Write a program to perform the following calculation:    1. Matrix addition    2. Matrix multiplication    3. Matrix subtraction    4. Matrix transpose  * Program should be a menu driven program. * Program should have Functions with arguments and Return Value.   + List Functions:     - matrix\_addition()     - matrix\_multiplication()     - matrix\_subtraction()     - matrix\_transpose()     - exit() * Do not exit the program until the user enters the input to exit the program. |
| *Code of the program & screenshot of the output.* |
| 1. Write a program to include all the functionalities of a calculator using ABSTRACT class and abstract method. All the methods (add, sub, mul, div) should be inside of abstract class. Abstract method definition should be in another class. |
| *Code of the program & screenshot of the output.* |