**Learner Assignment Submission Format**

**Learner Details**

* **Name: Nikil G S**
* **Enrollment Number:----**
* **Batch / Class:**
* **Assignment: (Bridge Course Day 1)**
* **Date of Submission:28/6/2025**

**1st question**

**Problem Solving Activity 1.1**

1. **Program Statement**

I learned from this question. I need to write a program on our age and name and take as a input. I will write a program output like a

“HELLO NIKIL, YOU ARE 22 YEARS OLD.”

1. **Algorithm**
2. start
3. use the prompt to enter the user name
4. store the name in the variable
5. use the prompt to enter the user age
6. store the age in the variable
7. display the out like “ HELLO NIKIL, YOU ARE 22 YEAR OLD.”
8. End
9. **Pseudocode**

1 start

2 display “Enter your name”

3 read name

4 display “Enter your age”

5 read age

6 set greeting to “hello Nikil you are 22 year old”

7 End

**4. Program Code**

**let name = prompt("Enter your name");**

**let age = prompt ("Enter your age");**

**alert("Hello " + name + ", you are " + age + " years old.");**

**5. Test Cases**

Present a table of test cases you used to validate your program. Include a mix of regular, boundary, and edge cases.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Case No. | Input | Expected Output | Actual Output | Status (Pass/Fail) |
| 1 | Nikil | “hello Nikil you are 22 year old” | “hello Nikil you are 22 year old” | Pass |
| 2 | Age |  |  |  |
| 3 |  |  |  |  |

**6. Screenshots of Output**

**Enter your name Nikil**

**Enter your age 22**

**Hello Nikil, you are 22 years old.**

**7. Observation / Reflection**

my challenges are, I made mistake in write the program in 3rd line. I was wrote greeting in capital letter without proper indications.

**2nd question**

**Problem Solving Activity 1.2**

I learned from this question. I need to write a program on two numbers and convert their integers and their sum, product and difference

**Algorithm**

1. Start
2. Take two numbers as input
3. Convert their integers
4. Calculate the sum and product of each number
5. Print their final result
6. End

**Pseudocode**

1. Start
2. Display the two numbers
3. Display their converted integer
4. Analyze above (2 and 3)
5. Set what we calculate
6. End

**Program Code**

let input1 = prompt("Enter the first number");

let input2 = prompt("Enter the second number");

let num1 = parseInt(input1);

let num2 = parseInt(input2);

let sum = num1 + num2;

let product = num1 \* num2;

alert("sum" + sum);

alert("product" + product);

**Test Cases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Input | Expected Output | Actual Output | Status (Pass/Fail) |
| 1 | First number 5 | Sum = 11  Product = 30 | Sum = 11  Product = 30 | Pass |
| 2 | Second number 6 |  |  |  |
| 3 |  |  |  |  |

**Screenshots of Output**

Enter the first number5

Enter the second number6

sum11

product30

**Observation / Reflection**

I made mistake in printing the result

3rd question

**Program Statement**

I learned from this question. Convert these "123",123.45,123,True,"Hello" data types into computer language or identify the particular statement

**Algorithm**

|  |  |
| --- | --- |
| "123" | string |

|  |  |
| --- | --- |
| 123.45 | float |

|  |  |
| --- | --- |
| 123 | number |

|  |  |
| --- | --- |
| true | Boolean |
| “Hello” | string |

|  |  |
| --- | --- |
| **Observation / Reflection**  I don’t have any challenges |  |

**4th question**

**Program Statement**

We need converts Celsius to Fahrenheit by using the formula

**Algorithm**

1. Start
2. Declare a variable to store Celsius temperature
3. Use the formula F = (C × 9/5) + 32 to convert Celsius to Fahrenheit
4. Store the result in a variable
5. Display the Fahrenheit temperature
6. End

**Pseudocode**

takes a temperature in Celsius as input, applies the conversion formula, and returns the equivalent temperature in Fahrenheit**.**

**Program Code**

let celsius = 30; // You can change this value

let fahrenheit = (celsius \* 9/5) + 32;

console.log(celsius + "°C is equal to " + fahrenheit + "°F");

**Test Cases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Input | Expected Output | Actual Output | Status (Pass/Fail) |
| 1 | Celsius=30 | 30°C is equal to 86°F | 30°C is equal to 86°F | pass |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

**Screenshots of Output**

30°C is equal to 86°F

**Observation / Reflection**

The function handles both positive and negative Celsius values, as well as extreme temperatures like 0 and 100 degrees Celsius.

**5th question**

**Program Statement**

Create a basic calculator that performs addition, subtraction, multiplication, and division between two user-provided numbers.

**Algorithm**

1. Start

2. Input two numbers, num1 and num2, from the user.

3. Input an operator (+, -, \*, /) from the user.

4. Check the operator:

5. Display the result (if valid).

6. End

**Pseudocode**

1. START
2. Input num1
3. Input operator
4. End

**Program Code**

let num1 = parseFloat(prompt("Enter the first number:"));

let num2 = parseFloat(prompt("Enter the second number:"));

let operator = prompt("Enter operator (+, -, \*, /):");

let result;

if (operator === "+") {

result = num1 + num2;

} else if (operator === "-") {

result = num1 - num2;

} else if (operator === "\*") {

result = num1 \* num2;

} else if (operator === "/") {

if (num2 !== 0) {

result = num1 / num2;

} else {

result = "Error: Division by zero";

}

} else {

result = "Invalid operator";

}

console.log("Result: " + result);

**Test Cases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Input | Expected Output | Actual Output | Status (Pass/Fail) |
| 1 | 3 (operator +) | 8 | 8 | Pass |
| 2 | 5 | - | - |  |
| 3 |  |  |  |  |

**Screenshots of Output**

Enter the first number:3

Enter the second number:5

Enter operator (+, -, \*, /):+

Result:

**Observation**

he calculator program works as expected, performing addition, subtraction, multiplication, and division operations correctly. It handles division by zero and invalid operators, providing informative error messages

**6th question**

**Program Statement**

Using if-else statement find the number even or odd.

**Algorithm**

1. Start

2. Accept a number from the user

3. Check if the number is divisible by 2

4. Print the result

5. End

**Pseudocode**

1.START

2.PROMPT user to enter a number

3.EAD number

4.END

**Program Code**

let number = prompt("Enter a number:");

number = parseInt(number);

if (number % 2 === 0) {

console.log("The number is Even");

} else {

console.log("The number is Odd");

}

**Test Cases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Input | Expected Output | Actual Output | Status (Pass/Fail) |
| 1 | 3 | The number is Odd | The number is Odd | Pass |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

**Screenshots of Output**

The number is Odd

**Observation**

1. remainder of division
2. Conditional statement used for decision making
3. Method used to take user input in JavaScript
4. Converts string input to integer in JavaScript
5. returns the remainder of a division

**7th question**

**Program Statement**

accepts two numbers from the user and prints Which number is greater, **or**If the numbers are equal.

**Pseudocode**

1. Start
2. Accept two numbers from the user
3. Compare the two numbers:
4. End

**Program Code**

let num1 = parseInt(prompt("Enter the first number:"));

let num2 = parseInt(prompt("Enter the second number:"));

if (num1 > num2) {

console.log("First number is greater");

} else if (num2 > num1) {

console.log("Second number is greater");

} else {

console.log("Both numbers are equal");

}

**Test Cases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Input | Expected Output | Actual Output | Status (Pass/Fail) |
| 1 | First number 6 | 7 greater than 6 | 7 greater than 6 | Pass |
| 2 | Second number is 7 | - | - |  |
| 3 |  |  |  |  |

**Screenshots of Output**

Enter the first number:6

Enter the second number:7

Second number is greater

**Observation**

**1.**The program uses basic conditional logic

2. It handles all scenarios

3. It uses prompt(**)** to take input and parseInt() to convert input from string to integer.

4. This logic works for positive, negative, and zero values.

**8th question**

**Problem statement**

we need to print the numbers using the while loop count down 10 to 1.

**Pseudocode**

1. Start
2. Set num = 10
3. Print num
4. End while
5. End

**Program Code**

let num = 10;

while (num >= 1) {

console.log(num);

num--; // Decrease by 1

}

**Test Cases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Input | Expected Output | Actual Output | Status (Pass/Fail) |
| 1 | 10,1,-- | 10 to 1 | 10 to 1 | Pass |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

**Screenshots of Output**

10

9

8

7

6

5

4

3

2

1

**Observation**

Works for countdowns and reverse sequences.

**9th question**

**Program statement**

1. Start
2. Accept a number from the user
3. Use a for loop
4. Multiply the input number
5. End

**Pseudocode**

1. Start
2. User to enter the number
3. Read the number
4. End
5. End

**Program Code**

let num = parseInt(prompt("Enter a number to print its multiplication table:"));

for (let i = 1; i <= 10; i++) {

console.log(`${num} x ${i} = ${num \* i}`);

}

**Test Cases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Input | Expected Output | Actual Output | Status (Pass/Fail) |
| 1 | 9 | 9\*1=9 to 9\*10=90 | 9\*1=9 to 9\*10=90 | Pass |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

**Screenshots of Output**

Enter a number to print its multiplication table:9

9 x 1 = 9

9 x 2 = 18

9 x 3 = 27

9 x 4 = 36

9 x 5 = 45

9 x 6 = 54

9 x 7 = 63

9 x 8 = 72

9 x 9 = 81

9 x 10 = 90

**Observation**

The program uses a for loop to iterate from 1 to 10.

It multiplies the user's input with each i and prints in the format "num x i = result"

**10th question**

**Problem statement**

Take a number from the user and check the nuber even or odd.

**Pseudocode**

START

1. Input marks from the user

2. Print "Odd number"

3. Else:

4END

**Algorithm**

1. Start
2. Read input marks
3. Check if marks is between 0 and 100
4. Else check
5. End

**Program code**

let marks = parseInt(prompt("Enter your marks (0-100):"));

if (marks >= 0 && marks <= 100) {

if (marks % 2 === 0) {

console.log("Even number");

} else {

console.log("Odd number");

}

} else {

console.log("Invalid marks. Please enter between 0 and 100.");

}

**Test Cases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Input | Expected Output | Actual Output | Status (Pass/Fail) |
| 1 | 45 | Odd number | Odd number | Pass |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

**Screenshots of output**

Enter your marks (0-100):45

Odd number

**Observation**

Invalid inputs are gracefully rejected with a message.