LAB REPORT- 03

Course title: Structured Programming Laboratory

Course Code: CSE 114

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1. The String Sorter

Code:

```c
#include <stdio.h>
void sortDescending(char str[]) {
    int i, j;
    char temp;
    for(i = 0; str[i] != '\0'; i++) {
        for(j = i + 1; str[j] != '\0'; j++) {
            if(str[i] > str[j]) {
                temp = str[i];
                str[i] = str[j];
                str[j] = temp;
            }   }   }   }
int main() {
    char str[100];
    printf("Enter a string: ");
    fgets(str, sizeof(str), stdin);
    sortDescending(str);
    printf("Sorted String: %s", str);
    return 0;
}
```

Input/Output:

Output

```
Enter a string: I Love C Programming.
Sorted String:
   .CILPaeggimmnoorrv

=== Code Execution Successful ===
```

2. Recursive Riddle

Code:

```c
#include <stdio.h>
int countDigits(int num) {
    if (num == 0)
        return 0;
    else
        return 1 + countDigits(num / 10);
}
    int main() {
    int number;
    printf("Enter a number: ");
    scanf("%d", &number);
    if (number == 0) {
        printf("The number of digits is 1\n");
    } else {
    printf("The number of digits is: %d\n", countDigits(number
        ));
    }
    return 0;
}
```

Input/Output:

```
Enter a number: 754
The number of digits is: 3


=== Code Execution Successful ===
```

3. Reflections of a Number

Code:

```c
#include <stdio.h>
int Palindrome(int num) {
    int original = num;
    int reversed = 0, remainder;
    while (num != 0) {
        remainder = num % 10;
        reversed = reversed * 10 + remainder;
        num /= 10;     }
    if (original == reversed) {
        return 1;
    } else {
        return 0;     }       }
int main() {
    int number;
    printf("Enter a number: ");
    scanf("%d", &number);
    if (Palindrome(number)) {
        printf("The number is a palindrome.\n", number);
    } else {
        printf("The number is not a palindrome.\n", number);
    }
    return 0;
}
```

Input/Output:

```
Enter a number: 252
The number is a palindrome.


=== Code Execution Successful ===
```

```
Enter a number: 654
The number is not a palindrome.


=== Code Execution Successful ===
```

4. Array of Odds

Code:

```c
#include <stdio.h>
int odd(int arr[], int size) {
    int sum = 0;
    for (int i = 0; i < size; i++) {
        if (arr[i] % 2 != 0) {
            sum += arr[i];
        }    }
    return sum;          }
int main() {
    int size;
    printf("Enter the array size: ");
    scanf("%d", &size);
    int arr[size];
    printf("Enter the values of the array: ");
    for (int i = 0; i < size; i++) {
        scanf("%d", &arr[i]);
    }
    int result = odd(arr, size);
    printf("The sum of odd elements is: %d\n", result);
    return 0;
}
```

Input/Output:

```
Enter the array size: 5
Enter the values of the array: 10 2 5 7 4
The sum of odd elements is: 12


=== Code Execution Successful ===
```

5. Degrees of Change

Code:

```c
#include <stdio.h>
struct Temperature {
    float celsius;
    float fahrenheit;
};
float celsiusToFahrenheit(float celsius) {
    return (celsius * 9 / 5) + 32;
}
int main() {
    struct Temperature temp;
    printf("Enter temperature in Celsius: ");
    scanf("%f", &temp.celsius);
    temp.fahrenheit = celsiusToFahrenheit(temp.celsius);
    printf("Temperature in Fahrenheit: %.2f\n", temp.fahrenheit
        );
    return 0;
}
```

Input/Output:

```
Enter temperature in Celsius: 25
Temperature in Fahrenheit: 77.00


=== Code Execution Successful ===
```