Lab 9 Tasks

➢ Task 1:

Write a C function that takes two numbers as input and returns their product.

- Output:

```
D:\FAST\PF LAB 9>gcc prodfunc.c -o prodfunc.exe

D:\FAST\PF LAB 9>prodfunc.exe
Enter 1st number: 10
Enter 2nd number: 50
500
```

➢ Task 2:

Write a function that checks if a given number is even or odd.

- Output:

```
D:\FAST\PF LAB 9>gcc evenoddfunc.c -o evenoddfunc.exe

D:\FAST\PF LAB 9>evenoddfunc.exe
Enter a number: 8
8 is even
```

➢ Task 3:

Write a program that takes a destination string and a source string as input. Then, take an integer n as input and append only the first n characters of the source string to the destination. Print the new concatenated string.

- Output:

```
D:\FAST\PF LAB 9>gcc n_numberofchar_concatenation.c -o n_numberofchar_concatenation.exe

D:\FAST\PF LAB 9>n_numberofchar_concatenation.exe
Enter the value of n: 10
Source string: Raza
Destination string: Ali
concetanated: AliRaza
```

➢ Task 4:

Write a program that initializes a 2D character array with a list of words. Then, take a word as input from the user and check if it exists in the array. Display "Found" if it's there, otherwise display "Not Found".

- Output:

```
D:\FAST\PF LAB 9>gcc Existence_of_an_string.c -o Existence_of_an_string.exe

D:\FAST\PF LAB 9>Existence_of_an_string.exe
Enter an input string: Valorant
Valorant is available in the intialized string
```

➢ Task 5:

Create a program that accepts a 2D array of strings (e.g., 5 words with a max length of 20 characters each). Determines if each word (row) is a palindrome. Outputs "Palindrome" or "Not Palindrome" for each word. A palindrome is a word that reads the same forward and backward. For example: "madam", "racecar", "level", "radar".

- Output:

```
D:\FAST\PF LAB 9>gcc Palindrome_string.c -o Palindrome_string.exe

D:\FAST\PF LAB 9>Palindrome_string.exe
Enter words:
racecar
lol
madam
not
ali

racecar is a palindrome string
lol is a palindrome string
madam is a palindrome string
```

➢ Task 6:

Create a C program that swaps the values of two integers using a user-defined function, Swap Integers. The user inputs two integer values, and the program uses the function to swap them. It should perform the swap and display the updated values.

- Output:

```
D:\FAST\PF LAB 9>gcc swapfunction.c -o swapfunction.exe

D:\FAST\PF LAB 9>swapfunction.exe
Enter the first number: 10
Enter the second number: 20
After swapping:
First number: 20
Second number: 10
```

➢ Task 7:

Implement a function that checks if a given integer is a prime number. Use this function in the main program to check if numbers entered by the user are prime.

- Output:

```
D:\FAST\PF LAB 9>gcc primefunction.c -o primefunction.exe

D:\FAST\PF LAB 9>primefunction.exe
How many numbers do you want to enter: 5
Enter an array of numbers:
10
1007
17
4
8
10 is a composite number
1007 is a composite number
17 is a prime number
4 is a composite number
8 is a composite number
```

➢ Task 8:

Write a C program with a user-defined function calculate to perform basic arithmetic operations such as addition, subtraction, multiplication, and division. The program should take two numbers and an operation choice as input, and then use the function to perform the operation.

- ## Output:

```
D:\FAST\PF LAB 9>gcc calcfunction.c -o calcfunction.exe

D:\FAST\PF LAB 9>calcfunction.exe
Enter first number: 10
Enter second number: 20
Choose from the options given below:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Other number to Exit
option: 1
sum: 30
Choose from the options given below:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Other number to Exit
option: 2
Choose from the following:
1. a-b
2. b-a
option: 2
difference: 10
Choose from the options given below:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Other number to Exit
option: 3
Product: 200
Choose from the options given below:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Other number to Exit
option: 4
Choose from the following:
1. a/b
2. b/a
option: 1
division: 0.500000
Choose from the options given below:
1. Addition
2. Subtraction
3. Multiplication
4. Division
Other number to Exit
option: 5

D:\FAST\PF LAB 9>
```

➢ Task 9:

Create a function that reverses a given string and returns the reversed string. Use this function in the main program to display the reversed string entered by the user.

- Output:

```
D:\FAST\PF LAB 9>gcc reversingstring.c -o reversingstring.exe

D:\FAST\PF LAB 9>reversingstring.exe
Enter a string: Ali
ilA
D:\FAST\PF LAB 9>
```

➢ Task 10:

Create a function that returns the maximum and minimum element in an integer array. Use this function in the main program to find the maximum and minimum from an array entered by the user.

- Output:

```
D:\FAST\PF LAB 9>gcc maxminfunc.c -o maxminfunc.exe

D:\FAST\PF LAB 9>maxminfunc.exe
Enter size:5
Enter values:
10
100
60
4
-9
max:100
min:-9
```