Lab Exercise – 2.1

- AIM :: WAP in C to implement basic operations in different functions on Linux using vi-Editor

Source_Code ::

```
#include <stdio.h>

// Function to find the greatest number among three numbers
int findGreatest(int a, int b, int c)
{
    if (a > b && a > c) {
        return a;
    } else if (b > c) {
        return b;
    } else {
        return c;
    }
}
// Function to check if a number is even or odd
void evenOdd(int num)
{
    if (num % 2 == 0) {
        printf("%d is Even\n", num);
    } else {
        printf("%d is Odd\n", num);
    }
}
```

```
// Function to check if a number is prime
void checkPrime(int num)
{
    int i, flag = 0;
    if (num <= 1) {
        printf("%d is not a Prime number\n", num);
        return;
    }
    for (i = 2; i <= num / 2; ++i) {
        if (num % i == 0) {
            flag = 1;
            break;
        }
    }
    if (flag == 0) {
        printf("%d is a Prime number\n", num);
    } else {
        printf("%d is not a Prime number\n", num);
    }
}
// Function to calculate the average of three numbers
double calculateAverage(int a, int b, int c) { return (a + b + c) / 3.0; }
int main()
{
    printf("\n5C6 - Amit Singhal (11614802722)\n");
    int num1, num2, num3;
    int choice;
    printf("\nChoose an operation:\n");
    printf("1. Find Greatest of Three Numbers\n");
    printf("2. Check Even or Odd\n");
```

```
printf("3. Check Prime Number\n");
printf("4. Calculate Average of Three Numbers\n");
printf("5. Exit\n");
while (1) {
    printf("\nEnter your choice: ");
    scanf("%d", &choice);
    switch (choice) {
    case 1:
        printf("\nEnter three numbers: ");
        scanf("%d %d %d", &num1, &num2, &num3);
        printf("Greatest Number: %d\n", findGreatest(num1, num2, num3));
        break;
    case 2:
        printf("\nEnter a number: ");
        scanf("%d", &num1);
        evenOdd(num1);
        break;
    case 3:
        printf("\nEnter a number: ");
        scanf("%d", &num1);
        checkPrime(num1);
        break;
    case 4:
        printf("\nEnter three numbers: ");
        scanf("%d %d %d", &num1, &num2, &num3);
        printf("Average: %.2f\n", calculateAverage(num1, num2, num3));
        break;
    case 5:
        printf("\n");
        return 0;
    default:
```

```
        printf("\nInvalid choice! Please choose again.\n");
    }
  }
  return 0;
}
```

Output ::

```
amit@Toshiba-Satellite-C850:~$ cd Desktop/Code/
amit@Toshiba-Satellite-C850:~/Desktop/Code$ vi basic_operations.c
amit@Toshiba-Satellite-C850:~/Desktop/Code$ gcc basic_operations.c -o basic_operations
amit@Toshiba-Satellite-C850:~/Desktop/Code$ ./basic_operations

5C6 - Amit Singhal (11614802722)

Choose an operation:
1. Find Greatest of Three Numbers
2. Check Even or Odd
3. Check Prime Number
4. Calculate Average of Three Numbers
5. Exit

Enter your choice: 1

Enter three numbers: 105 116 122
Greatest Number: 122

Enter your choice: 2

Enter a number: 13345
13345 is Odd

Enter your choice: 3

Enter a number: 5456527
5456527 is not a Prime number

Enter your choice: 4

Enter three numbers: 2234 4523 4355
Average: 3704.00

Enter your choice: 5

amit@Toshiba-Satellite-C850:~/Desktop/Code$
```