QUESTION 1:

```c
#include<stdio.h>

int main() {
    int input,mainint;
    int sum = 0;
    printf("Find the Sum of numbers.");
    mainint = input;



    do {
        input--;
        printf("\nEnter number to sum(0 to exit) : ");
        scanf("%d",&input);
        sum = input + sum;
        if(input == 0){
            printf("You have enter 0, Code is exited");
        }else{
        printf("sum upto entered numbers is : %d\n",sum);
        }

    } while(input != 0);

    return 0;

}
```

```
C:\Users\Mahad\Desktop\LAB SUB new\1.exe
Find the Sum of numbers.
Enter number to sum(0 to exit) : 45
sum upto entered numbers is : 45

Enter number to sum(0 to exit) : 45
sum upto entered numbers is : 90

Enter number to sum(0 to exit) : 15
sum upto entered numbers is : 105

Enter number to sum(0 to exit) : 1234
sum upto entered numbers is : 1339

Enter number to sum(0 to exit) : 78
sum upto entered numbers is : 1417

Enter number to sum(0 to exit) : 0
You have enter 0, Code is exited
--------------------------------
Process exited after 5.954 seconds with return value 0
Press any key to continue . . .
```

QUESTION 2:

```c
#include<stdio.h>

int main() {
    int input;
    int factorial = 1;
    printf("Find the factorial of entered number.\nEnter your number : ");
    scanf("%d",&input);

    if (input == 0) {
        printf("%d! is equal to : 1", input);
    } else {
        for(int i = input; i >= 1; i--) {
            factorial = i *  factorial;

        }
        printf("%d! is equal to : %d", input,factorial);
    }

    return 0 ;
}
```

```
C:\Users\Mahad\Desktop\LAB SUB new\2.exe
Find the factorial of entered number.
Enter your number : 5
5! is equal to : 120
--------------------------------
Process exited after 4.053 seconds with return value 0
Press any key to continue . . .
```

QUESTION 3:

```c
#include<stdio.h>

int main() {
    int input,counteven,countOdd;
    counteven = 0;
    countOdd = 0;
    printf("Enter Number to know the count of Even/Odd number : ");
    scanf("%d",&input);

    for(int i = input; i > 0; i--) {
        input = i % 2;
        if(input == 0) {
            counteven++;
        } else {
            countOdd++;
        }

    }


    printf("Odd count is : %d\nEven count is %d",countOdd,counteven);
    return 0;
}
```

```
C:\Users\Mahad\Desktop\LAB SUB new\3.exe
Enter Number to know the count of Even/Odd number : 45
Odd count is : 23
Even count is 22
--------------------------------
Process exited after 3.17 seconds with return value 0
Press any key to continue . . .
```

QUESTION 4:

```c
#include<stdio.h>

int main() {
    int input,even;
    int sum = 0;
    printf("Find the Sum of even numbers upto given number.\nEnter your number : ");
    scanf("%d",&input);

    if (input == 0) {
        printf("%d sum  upto : 0", input);
    } else {
        for(int i = input; i > 0; i--) {
            even = i%2;
            if(even == 0) {
                sum = i +  sum;
            }

        }
        printf("sum of upto %d is equal to : %d", input,sum);
    }


    return 0;
}
```

```
C:\Users\Mahad\Desktop\LAB SUB new\4.exe
Find the Sum of even numbers upto given number.
Enter your number : 45
sum of upto 45 is equal to : 506
--------------------------------
Process exited after 2.881 seconds with return value 0
Press any key to continue . . .
```

QUESTION 5:

```c
#include <stdio.h>

int main() {
    int input;
    int revnum = 0;

    printf("Enter a number to reverse: ");
    scanf("%d", &input);

    while (input != 0) {
        int digit = input % 10;
        revnum = (revnum * 10) + digit;
        input /= 10;
    }

    printf("The reversed number is: %d\n", revnum);
    return 0;
}
```

```
C:\Users\Mahad\Desktop\LAB SUB new\5.exe
Enter a number to reverse: 45786
The reversed number is: 68754

--------------------------------
Process exited after 3.227 seconds with return value 0
Press any key to continue . . .
```

QUESTION 6:

```c
#include <stdio.h>

int main() {
    int a, b, lcm;


    printf("Enter number a: ");
    scanf("%d", &a);
    printf("Enter number b: ");
    scanf("%d", &b);


    lcm = (a > b) ? a : b;

    while (1) {

        if ((lcm % a == 0) && (lcm % b == 0)) {
            break;
        }
        lcm++;
    }

    printf("LCM = %d\n", lcm);
    return 0;
}
```

```
C:\Users\Mahad\Desktop\LAB SUB new\6.exe
Enter number a: 5
Enter number b: 4
LCM = 20

--------------------------------
Process exited after 2.609 seconds with return value 0
Press any key to continue . . .
```

QUESTION 7:

```c
#include <stdio.h>

int main() {
    int n;

    printf("Enter a positive integer: ");
    scanf("%d", &n);

    if (n <= 0) {
        printf("Please enter a positive integer greater than 0.\n");
    }else{
    printf("Collatz sequence: ");
    while (n != 1) {
        printf("%d -> ", n);
        if (n % 2 == 0) {
            n = n / 2;
        } else {
            n = 3 * n + 1;
        }
    }
    printf("1\n");
    }
    return 0;
}
```

```
C:\Users\Mahad\Desktop\LAB SUB new\7.exe
Enter a positive integer: 8
Collatz sequence: 8 -> 4 -> 2 -> 1

--------------------------------
Process exited after 2.037 seconds with return value 0
Press any key to continue . . .
```

QUESTION 8:

Long code(check in github 8.c file)

```c
        printf("Student %d: ", i + 1);
        scanf("%d", &marks);

        if (marks < 0) {
            printf("Error: Enter marks as positive integers.\n");
            i--;
            continue;
        }
        if (marks > 100) {
            printf("ERROR: Enter marks within 0 to 100.\n");
            i--;
            continue;
        }


        if (marks >= 90) {
            printf("Grade: A+ (Outstanding)\n");
            excellent++;
        } else if (marks >= 86) {
            printf("Grade: A (Excellent)\n");
            excellent++;
        } else if (marks >= 75) {
            printf("Grade: B+ (Good)\n");
            above_average++;
        } else if (marks >= 70) {
            printf("Grade: B- (Average)\n");
        } else if (marks >= 66) {
            printf("Grade: C+ (Below Average)\n");
        } else if (marks >= 62) {
            printf("Grade: C (Adequate)\n");
        } else if (marks >= 58) {
            printf("Grade: C- (Pass)\n");
        } else if (marks >= 54) {
            printf("Grade: D+ (Pass)\n");
        } else if (marks >= 50) {
            printf("Grade: D (Pass)\n");
            passed++;
        } else {
            printf("Grade: F (Failed)\n");
            failed++;
        }
        if (marks >= 50) {
            passed++;
        }
    }
    printf("\nResults:\n");
    printf("Total passed students: %d\n", passed);
    printf("Total failed students: %d\n", failed);
    printf("Total excellent students (A+): %d\n", excellent);
    printf("Total students above average (B+ and above): %d\n", above_average);

    return 0;
}
```

```
C:\Users\Mahad\Desktop\LAB SUB new\8new,c.exe
Student 16: 56
Grade: D+ (Pass)
Student 17: 88
Grade: A (Excellent)
Student 18: 98
Grade: A+ (Outstanding)
Student 19: 78
Grade: B+ (Good)
Student 20: 48
Grade: F (Failed)
Student 21: 5868
ERROR: Enter marks within 0 to 100.
Student 21: 78
Grade: B+ (Good)
Student 22: 78
Grade: B+ (Good)
Student 23: 68
Grade: C+ (Below Average)
Student 24: 48
Grade: F (Failed)
Student 25: 94
Grade: A+ (Outstanding)

Results:
Total passed students: 15
Total failed students: 10
Total excellent students (A+): 3
Total students above average (B+ and above): 8
```

QUESTION 9:

```c
#include <stdio.h>

int main() {
    int score = 0;
    int wrongAnswers = 0;
    int answer;

    printf("Welcome to the University Entry Test!\n");

    for (int i = 1; i <= 10; i++) {
        printf("\nQuestion %d:\n1. Option A\n 2. Option B\n 3. Option C\n 4. Option D\n", i);
        printf("Enter your answer (1-4): ");
        scanf("%d", &answer);

        if (answer < 1 || answer > 4) {
            printf("Invalid option, please enter a number between 1 and 4.\n");
            i--;
            continue;
        }
        if (answer == 1) {
            score += 4;
            printf("Correct answer! You now have %d marks.\n", score);
        } else {
            score -= 1;
            wrongAnswers++;
            printf("Wrong answer! You now have %d marks.\n", score);


            if (wrongAnswers >= 4) {
                printf("Sorry, you did not qualify for the admission.\n");
                return 0;
            }
        }


        if (score >= 20) {
            printf("Congratulations, you have qualified for the admission!\n");
            return 0;
        }
    }

    printf("\nThe test has concluded. Your final score is %d.\n", score);
    return 0;
}
```

```
C:\Users\Mahad\Desktop\LAB SUB new\9.exe
 2. Option B
 3. Option C
 4. Option D
Enter your answer (1-4): 4
Wrong answer! You now have 5 marks.

Question 6:
1. Option A
 2. Option B
 3. Option C
 4. Option D
Enter your answer (1-4): 1
Correct answer! You now have 9 marks.

Question 7:
1. Option A
 2. Option B
 3. Option C
 4. Option D
Enter your answer (1-4): 4
Wrong answer! You now have 8 marks.
Sorry, you did not qualify for the admission.

--------------------------------
Process exited after 12.64 seconds with return value 0
Press any key to continue . . .
```

sources | Compile Log | Debug | Find Results | Console | Close