Lab # 04 Tasks

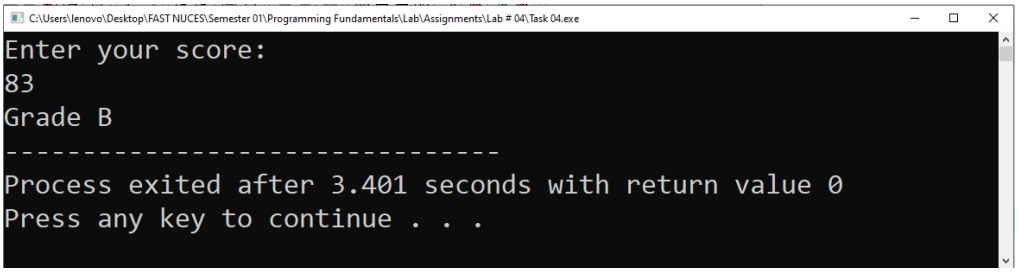
Task 4: Grade Calculator

Create a program that takes a student's score as input and prints the grade based on the given.

Program:

```c
#include <stdio.h>

int main(void){
    int score;
    printf("Enter your score: \n");
    scanf("%d", &score);

    if (score>=90){
        printf("Grade A");
    }
    else if (score>=80){
        printf("Grade B");
    }
    else if (score>=70){
        printf("Grade C");
    }
    else if (score>=60){
        printf("Grade D");
    }
    else{
        printf("Fail");
    }

    return 0;
}
```

Output:



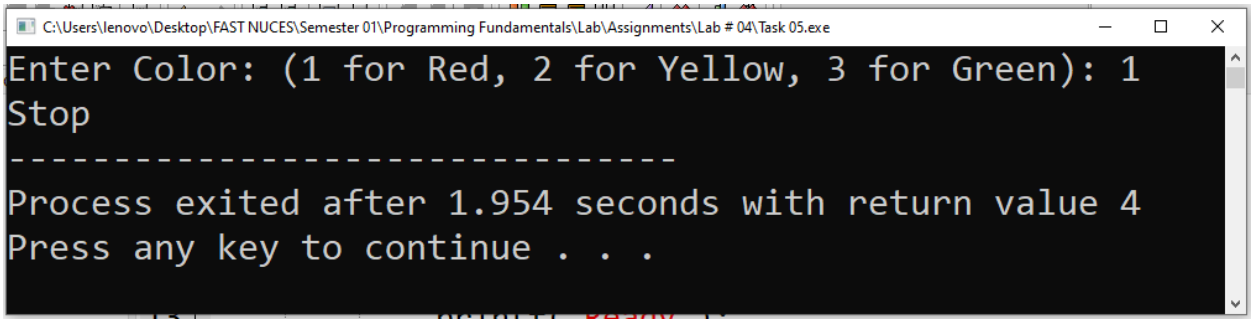
Task 5: Traffic Signal Control

Simulate a traffic light where the user inputs a color (1 for Red, 2 for Yellow, 3 for Green). The program prints the action to be taken: Stop, Ready, or Go

Program:

```c
#include <stdio.h>

int main(void){
    int color;
    printf("Enter Color: (1 for Red, 2 for Yellow, 3 for Green): ");
    scanf("%d", &color);

    switch (color){
        case 1:
            printf("Stop");
            break;
        case 2:
            printf("Ready");
            break;
        case 3:
            printf("Go");
            break;
    }
}
```

Output:



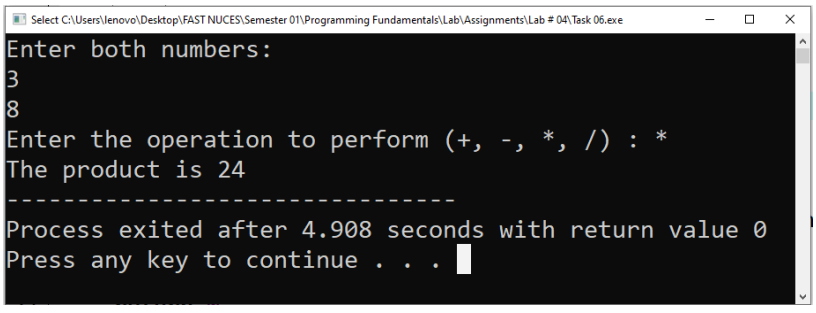
Task 6: Basic Calculator

Write a program that takes two numbers and an operator (+, -, *, /) as input and performs the corresponding arithmetic operation.

Program:

```c
#include <stdio.h>

int main(void){
    int num1,num2;
    char operation;

    printf("Enter both numbers:\n");
    scanf("%d %d",&num1,&num2);

    printf("Enter the operation to perform (+, -, *, /) : ");
    scanf(" %c", &operation);

    switch (operation){
        case '+':
            printf("The sum is %d", num1 + num2);
            break;
        case '-':
            printf("The difference is %d", num1 - num2);
            break;
        case '*':
            printf("The product is %d", num1 * num2);
            break;
        case '/':
            printf("The result of division is %d", num1/num2);
            break;
    }
    return 0;
}
```

Output:



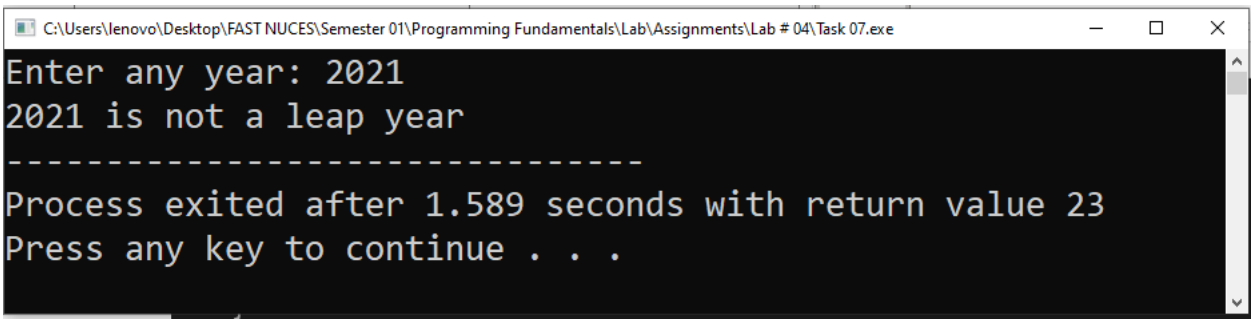
Task 7: Leap Year Check

Create a program to check if a year entered by the user is a leap year or not.

Program:

```c
#include <stdio.h>

int main(void){
    int year;
    printf("Enter any year: ");
    scanf("%d", &year);

    if (year%4==0 && year%100!=0 || year%400==0){
        printf("%d is a leap year", year);
    }
    else{
        printf("%d is not a leap year", year);
    }
}
```

Output:



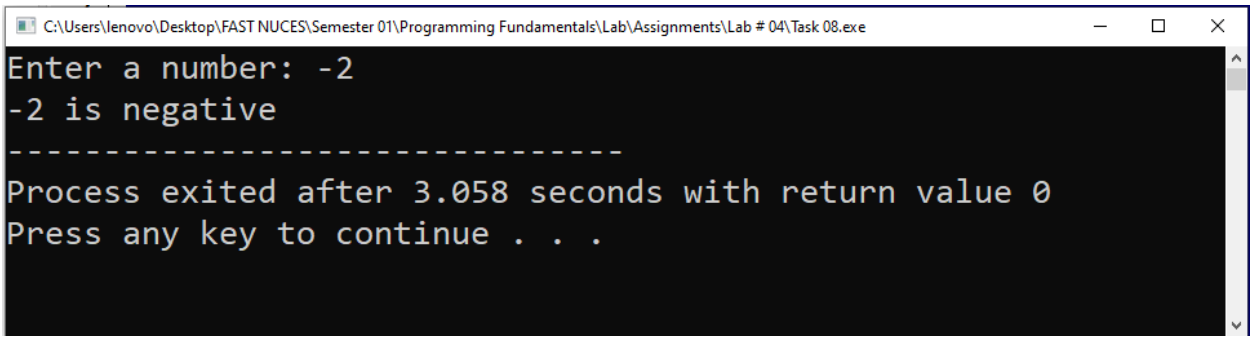
Task 8: Number Sign Checker

Write a program to check if a number is positive, negative, or zero.

Program:

```c
#include <stdio.h>

int main(void){
    int num;
    printf("Enter a number: ");
    scanf("%d", &num);

    if (num>0){
        printf("%d is positive", num);
    }
    else if (num<0){
        printf("%d is negative", num);
    }
    else{
        printf("%d is equal to zero", num);
    }
    return 0;
}
```

Output:



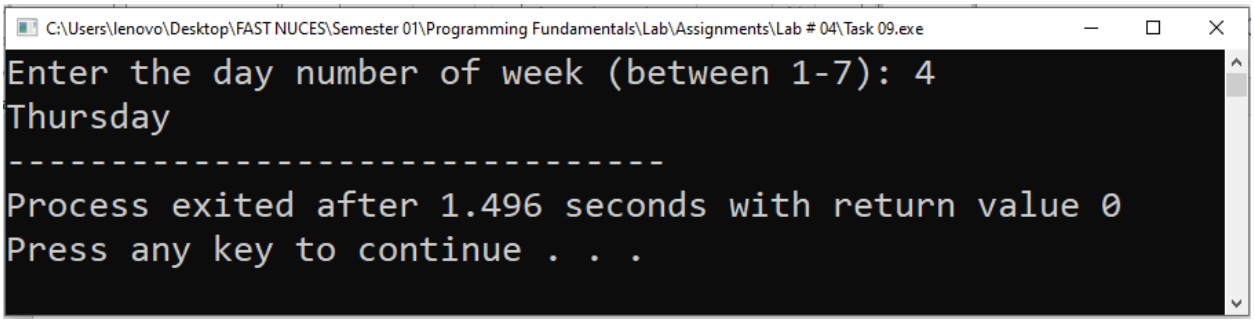
Task 9: Day Name from Number

Write a program where the user enters a number (1-7), and the program prints the corresponding day of the week.

Program:

```c
#include <stdio.h>

int main(void){
    int day_num;
    printf("Enter the day number of week (between 1-7): ");
    scanf("%d", &day_num);

    if (day_num>0 && day_num<8){
        switch (day_num){
            case 1:
                printf("Monday");
                break;
            case 2:
                printf("Tuesday");
                break;
            case 3:
                printf("Wednesday");
                break;
            case 4:
                printf("Thursday");
                break;
            case 5:
                printf("Friday");
                break;
            case 6:
                printf("Saturday");
                break;
            case 7:
                printf("Sunday");
                break;
        }
    }
    else{
        printf("Invalid Day number");
    }
    return 0;
}
```

Output:



Task 10: Simple Password Validator

Ask the user to enter a password (integer). If the password matches a predefined value, print “Access Granted” else print “Access Denied”.

Program:

```c
#include <stdio.h>

int main(void){
    int pass;
    int original_pass = 9177;
    printf("Enter your password: ");
    scanf("%d", &pass);

    if (pass==original_pass){
        printf("Access Granted!");
    }
    else{
        printf("Access Denied!");
    }
    return 0;
}
```

Output: