

Experiment 3: Conditional Statements

3.5. According to the gregorian calendar, it was Monday on the date 01/01/01. If any year is input through the keyboard write a program to find out what is the day on 1st January of this year.

Ans-:

```
#include <stdio.h>

int isLeap(int y) {
    if (y % 400 == 0) return 1;
    if (y % 100 == 0) return 0;
    if (y % 4 == 0) return 1;
    return 0;
}

int main() {
    printf("Name - Aryan kamboj\nSAP ID - 590025526\ncourse - BCA\nBatch - 6");
    printf("\n-----\n");
    int year, days = 0;

    printf("Enter year: ");
    scanf("%d", &year);

    // Count days from year 1 to (year-1)
    for (int i = 1; i < year; i++) {
        days += 365 + isLeap(i);
    }

    int dayIndex = days % 7;

    // 0 = Monday (since 01/01/01 was Monday)
    switch (dayIndex) {
        case 0: printf("1st January %d is Monday\n", year); break;
        case 1: printf("1st January %d is Tuesday\n", year); break;
        case 2: printf("1st January %d is Wednesday\n", year); break;
        case 3: printf("1st January %d is Thursday\n", year); break;
        case 4: printf("1st January %d is Friday\n", year); break;
        case 5: printf("1st January %d is Saturday\n", year); break;
        case 6: printf("1st January %d is Sunday\n", year); break;
    }
}
```

```
    return 0;  
}
```

Output :

```
aryankamboj@users-MacBook-Air lab_4 % cd "/Users/aryankamboj/Desktop/c_programming_theory/lab_4/" && gcc  
3.5.c -o 3.5 && "/Users/aryankamboj/Deskt  
op/c_programming_theory/lab_4/"3.5  
Name - Aryan kamboj  
SAP ID - 590025526  
course - BCA  
Batch - 6  
-----  
Enter year: 1  
1st January 1 is Monday  
aryankamboj@users-MacBook-Air lab_4 % cd "/Users/aryankamboj/Desktop/c_programming_theory/lab_4/" && gcc  
3.5.c -o 3.5 && "/Users/aryankamboj/Deskt  
op/c_programming_theory/lab_4/"3.5  
Name - Aryan kamboj  
SAP ID - 590025526  
course - BCA  
Batch - 6  
-----  
Enter year: 2  
1st January 2 is Tuesday
```