

## Chapter 2

**Q1:**

1  
1  
1  
1  
1  
0

**Q2:**

R3

**Q3:**

```
#include "stdio.h"

void main(){
    float no1,no2,no3;
    printf("Enter three numbers: ");
    scanf(" %f %f %f",&no1,&no2,&no3);
    printf("Maximum value: %g\n",
(no1>no2)? ((no1>no3)? no1:no3):((no2>no3)? no2:no3));
    system("pause");
}
```

**Q4:**

```
#include "stdio.h"

void main(){
    float no1,no2,no3,no4;
    printf("Enter Four numbers: ");
    scanf(" %f %f %f %f",&no1,&no2,&no3,&no4);
    if(no1>no2 && no1 > no3 && no1 > no4){
        printf("Largest number = %g\n",no1);
    }
    else if(no2>no1 && no2 > no3 && no2 > no4){
        printf("Largest number = %g\n",no2);
    }
    else if(no3>no2 && no3 > no1 && no3 > no4){
        printf("Largest number = %g\n",no3);
    }
    else{
        printf("Largest number = %g\n",no4);
    }
    system("pause");
}
```

## Q5:

```
#include "stdio.h"

void main(){
    unsigned char C;
    float x,y;
    double result;

    printf("Enter operator either + or - or * or /: ");
    scanf(" %c",&C);

    while(C != '+' && C != '-' && C != '*' && C != '/') {
        printf("Error!!! Enter a valid operator.\n\n");
        printf("Enter operator either + or - or * or /: ");
        scanf(" %c",&C);
        printf("\n");
    }
    printf("Enter Two Operands: ");
    scanf(" %f %f",&x,&y);
    switch(C){
        case '+':
            result = x + y;
            break;
        case '-':
            result = x - y;
            break;
        case '*':
            result = x * y;
            break;
        case '/':
            result = x / y;
            break;
    }
    printf("%g %c %g = %lg\n",x,C,y,result);
    system("Pause");
}
```

## Q6:

```
#include "stdio.h"

void main(){

    int i,j;

    for(i=9;i>=0;i--){
        for(j=0;j<=i;j++){
            printf("%d ",j);
        }
        printf("\n");
    }
    system("pause");
}
```

### Q7:

```
#include "stdio.h"

void main(){

    int i,j;

    printf("%c%8c", '*', ':');
    for(i=1;i<=7;i++){
        printf("%8d",i);
    }
    printf("\n");
    for(i=0;i<=70;i++){
        printf("-");
    }
    printf("\n");
    for(i=1;i<=7;i++){
        printf("%d%8c",i, ':');

        for(j=1;j<=7;j++){
            printf("%8d",i*j);
        }
        printf("\n");
    }
    system("pause");
}
```

### Q8:

```
#include "stdio.h"

void main(){
    unsigned int i,sum=0;
    for(i=1;i<=1000;i++){
        sum += i;
    }
    printf("Sum = %d\n",sum);
    system("pause");
}
```

### Q9:

```
#include "stdio.h"
#include "conio.h"

void main(){
    unsigned char x;
    while(1){
        if(getche()=='b' && getche()=='y' && getche()=='b' &&
getche()=='y'){
            printf("\n\nGood Bye\n");
            break;
        }
    }
    system("pause");
}
```

## Q11:

```
#include "stdio.h"

void main(){
    unsigned int day,month,year,extra_day=0, No_Of_Days=0;
    date:
    printf("Enter a date (Day Month Year): ");
    scanf(" %d %d %d",&day,&month,&year);
    if(year <1){
        printf("\nError!!! Enter a valid date\n");
        goto date;
    }
    if((year % 4 == 0 && year % 100 != 0) || (year % 100 == 0 && year %
400 == 0) ){
        extra_day = 1;
    }
    else{
        extra_day = 0;
    }
    switch(month){
        case 1:
            No_Of_Days = 0;
            break;
        case 2:
            No_Of_Days = 31;
            break;
        case 3:
            No_Of_Days = 59 + extra_day;
            break;
        case 4:
            No_Of_Days = 90 + extra_day;
            break;
        case 5:
            No_Of_Days = 120 + extra_day;
            break;
        case 6:
            No_Of_Days = 151 + extra_day;
            break;
        case 7:
            No_Of_Days = 181 + extra_day;
            break;
        case 8:
            No_Of_Days = 212 + extra_day;
            break;
        case 9:
            No_Of_Days = 243 + extra_day;
            break;
        case 10:
            No_Of_Days = 273 + extra_day;
            break;
        case 11:
            No_Of_Days = 304 + extra_day;
            break;
        case 12:
            No_Of_Days = 334 + extra_day;
            break;
        default:
```

```

        printf("\nError!!! Enter a valid date\n");
        goto date;
    }
    if(month == 1 || month == 3 || month == 5 || month == 7 || month == 8
|| month == 10 || month == 12){
        if(day > 31 || day < 1){
            printf("\nError!!! Enter a valid date\n");
            goto date;
        }
    }
    else if(month == 2){
        if(day > (28+extra_day) || day < 1){
            printf("\nError!!! Enter a valid date\n");
            goto date;
        }
    }
    else{
        if(day > 30 || day < 1){
            printf("\nError!!! Enter a valid date\n");
            goto date;
        }
    }
    No_Of_Days += day;

    printf("\nNumber of days: %d\n",No_Of_Days);

    system("pause");
}

```

## Q12:

```
#include "stdio.h"

void main(){
    unsigned int
    day1,month1,year1,day2,month2,year2,extra_day1=0,extra_day2=0,
    No_Of_Days1=0,No_Of_Days2=0,extra_days=0,i,No_Of_Days;
    date:
    printf("Enter the first date (Day Month Year): ");
    scanf(" %d %d %d",&day1,&month1,&year1);
    printf("\nEnter the Second date (Day Month Year): ");
    scanf(" %d %d %d",&day2,&month2,&year2);
    if(year1 <1 || year2 <1){
        printf("\nError!!! Enter a valid date\n");
        goto date;
    }
    for(i=year1+1;i<year2;i++){
        if((i % 4 == 0 && i % 100 != 0) || (i % 100 == 0 && i % 400 ==
0) ){
            extra_days += 1;
        }
    }
    if((year2 % 4 == 0 && year2 % 100 != 0) || (year2 % 100 == 0 && year2
% 400 == 0) ){
        extra_day2 = 1;
    }
    else{
        extra_day2 = 0;
    }
    if((year1 % 4 == 0 && year1 % 100 != 0) || (year1 % 100 == 0 && year1
% 400 == 0) ){
        extra_day1 = 1;
    }
    else{
        extra_day1 = 0;
    }

    switch(month1){
        case 1:
            No_Of_Days1 = 0;
            break;
        case 2:
            No_Of_Days1 = 31;
            break;
        case 3:
            No_Of_Days1 = 59 + extra_day1;
            break;
        case 4:
            No_Of_Days1 = 90 + extra_day1;
            break;
        case 5:
            No_Of_Days1 = 120 + extra_day1;
            break;
        case 6:
            No_Of_Days1 = 151 + extra_day1;
            break;
        case 7:
            No_Of_Days1 = 181 + extra_day1;
            break;
        case 8:
            No_Of_Days1 = 212 + extra_day1;
```

```

        break;
    case 9:
        No_Of_Days1 = 243 + extra_day1;
        break;
    case 10:
        No_Of_Days1 = 273 + extra_day1;
        break;
    case 11:
        No_Of_Days1 = 304 + extra_day1;
        break;
    case 12:
        No_Of_Days1 = 334 + extra_day1;
        break;
    default:
        printf("\nError!!! Enter a valid date\n");
        goto date;
}
switch(month2) {
    case 1:
        No_Of_Days2 = 0;
        break;
    case 2:
        No_Of_Days2 = 31;
        break;
    case 3:
        No_Of_Days2 = 59 + extra_day2;
        break;
    case 4:
        No_Of_Days2 = 90 + extra_day2;
        break;
    case 5:
        No_Of_Days2 = 120 + extra_day2;
        break;
    case 6:
        No_Of_Days2 = 151 + extra_day2;
        break;
    case 7:
        No_Of_Days2 = 181 + extra_day2;
        break;
    case 8:
        No_Of_Days2 = 212 + extra_day2;
        break;
    case 9:
        No_Of_Days2 = 243 + extra_day2;
        break;
    case 10:
        No_Of_Days2 = 273 + extra_day2;
        break;
    case 11:
        No_Of_Days2 = 304 + extra_day2;
        break;
    case 12:
        No_Of_Days2 = 334 + extra_day2;
        break;
    default:
        printf("\nError!!! Enter a valid date\n");
        goto date;
}
if(month1 == 4 || month1 == 6 || month1 == 9 || month1 == 11 ) {
    if(day1 > 30 || day1 < 1){
        printf("\nError!!! Enter a valid date\n");
    }
}

```

```

        goto date;
    }
}
else if(month1 == 2){
    if(day1 > (28+extra_day1) || day1 < 1){
        printf("\nError!!! Enter a valid date\n");
        goto date;
    }
}
else{
    if(day1 > 31 || day1 < 1){
        printf("\nError!!! Enter a valid date\n");
        goto date;
    }
}
if(month2 == 4 || month2 == 6 || month2 == 9 || month2 == 11 ){
    if(day2 > 30 || day2 < 1){
        printf("\nError!!! Enter a valid date\n");
        goto date;
    }
}
else if(month2 == 2){
    if(day2 > (28+extra_day2) || day2 < 1){
        printf("\nError!!! Enter a valid date\n");
        goto date;
    }
}
else{
    if(day2 > 31 || day2 < 1){
        printf("\nError!!! Enter a valid date\n");
        goto date;
    }
}

No_Of_Days = (year2 - year1 -1)*365 +extra_days
+No_Of_Days2+day2+(365+extra_day1-No_Of_Days1-day1);

printf("\nNumber of days: %d\n",No_Of_Days);

system("pause");
}

```

### Q13:

```

#include "stdio.h"

void main(){
    int i ,no;
    printf("Enter a decimal number: ");
    scanf(" %d",&no);
    for(i=7;i>=0;i--){
        printf("%d", (no >> i) & 1);
    }
    system("pause");
}

```



**Q14:**

1  
2 3  
3 4 5  
4 5 6 7  
5 6 7 8 9  
4 5 6 7  
3 4 5  
2 3  
1

**Q15:**

1  
1  
1 2  
1  
1 2 3  
1 2  
1 3