

```

1 //.....Question-1.....//
2
3
4 #include<stdio.h>
5 int main(){
6
7 // Declaring variables:
8
9     int a;
10
11 // reading value from user
12
13     printf("Enter a number 1 to 7 for weekdays: ");
14     scanf("%d",&a);
15
16 //Checking the entered value and printing the week day
17
18     switch (a)
19     {
20     case 1:
21         printf("Monday");
22         break;
23     case 2:
24         printf("Tuesday");
25         break;
26     case 3:
27         printf("Wednesday");
28         break;
29     case 4:
30         printf("Thursday");
31         break;
32     case 5:
33         printf("Friday");
34         break;
35     case 6:
36         printf("Saturday");
37         break;
38     case 7:
39         printf("Sunday");
40         break;
41
42 // If the entered value is not 1 to 7 then :
43
44     default:
45         printf("Enter number from 1 to 7 only not other than these!!");
46         break;
47     }
48
49     return 0;
50 }

```

```
PS D:\fcp lab\assignment 5> cd "d:\fcp lab\assignment 5\" ; if ($?) { gcc a5q1.c -o a5q1 } ; if ($?) { .\a5q1 }
```

Enter a number 1 to 7 for weekdays: 3

Wednesday

```

1 //.....Question-2.....//
2
3 #include <stdio.h>
4
5 int main() {
6
7 // Declaring variables
8
9 char op;
10 double num1, num2;
11
12 //Scanning the operation from the user
13
14 printf("Enter an operator (+, -, *, /): ");
15 scanf("%c", &op);
16
17 // Scanning the operands from the user
18
19 printf("Enter two operands: ");
20 scanf("%lf %lf", &num1, num2);
21
22 // calculating and printing the values
23
24 switch (op) {
25     case '+':
26         printf("%.11f + %.11f = %.11f", num1, num2, num1 + num2);
27         break;
28     case '-':
29         printf("%.11f - %.11f = %.11f", num1, num2, num1 - num2);
30         break;
31     case '*':
32         printf("%.11f * %.11f = %.11f", num1, num2, num1 * num2);
33         break;
34     case '/':
35         printf("%.11f / %.11f = %.11f", num1, num2, num1 / num2);
36         break;
37
38 // operator doesn't match any case constant
39
40 default:
41     printf("Error! operator is not correct");
42 }
43
44 return 0;
45 }

```

Enter an operator (+, -, *, /): +

Enter two operands: 1

2

$1.0 + 2.0 = 3.0$

```
1 //.....Question-3.....//
```

```
2
```

```
3 #include<stdio.h>
```

```
4 int main(){
```

```
5     int a ;
```

```
6
```

```
7 // Scanning the year from the user
```

```
8
```

```
9     printf("Enter the year: ");
```

```
10    scanf("%d",&a);
```

```
11
```

```
12 // Checking wheter is year is leap or not and printing it
```

```
13
```

```
14     if(((a%4==0)&&(a%100!=0))||(a%400==0)){
```

```
15         printf("Leap year");
```

```
16
```

```
17     }
```

```
18     else{
```

```
19         printf("Not a leap year");
```

```
20     }
```

```
21     return 0;
```

```
22 }
```

$(\phi, \psi) \in \mathcal{C}(\mathbb{R}^n, \mathbb{R}^n)$

Enter the year: 2023

Not a leap year

```
1 //.....Question-4.....//
2
3 #include<stdio.h>
4 int main(){
5
6 // Declaring variables
7
8     char ch;
9
10 // scanning the character
11
12     printf("Enter character: ");
13     scanf("%c",&ch);
14
15 // Checking wheter the character is alphabet or not and also printing accordingly
16
17     if(((ch>='a')&&(ch<='z'))||((ch>='A')&&(ch<='Z'))){
18         printf("The character entered is alphabet");
19     }
20 }
21 else{
22     printf("The character entered is not a alphabet");
23 }
24
25     return 0;
26 }
```

```
PS D:\fcp lab\assignment 5> cd "d:\fcp lab\assignment 5\" ; if ($?) { gcc a5q4.c -o a5q4 } ; if ($?) { .\a5q4 }
```

Enter character: #

The character entered is not a alphabet


```

1 // .....(Question-5-(a)).....//
2 // Solving without variables
3
4 #include<stdio.h>
5 int main()
6 {
7
8 // declaring variables
9
10 int a,b;
11
12 // Scanning variables from user
13
14 printf("Enter the value of a: ");
15 scanf("%d",&a);
16
17 printf("\nEnter the value of b: ");
18 scanf("%d",&b);
19
20 //the process of swapping 'a' and 'b'
21
22 a=a+b;
23 b=a-b;
24 a=a-b;
25
26 //Printing the swapped values of 'a' and 'b'
27
28 printf("\nswapped value of a is: %d",a);
29 printf("\nSwapped value of b is: %d",b);
30
31
32
33 // .....(Question-5-(b)).....//
34 //Solving with variables
35
36
37 // declaring variables
38
39 int a,b,c;
40
41 // Scanning variables from user
42
43 printf("Enter the value of a: ");
44 scanf("%d",&a);
45
46 printf("\nEnter the value of b: ");
47 scanf("%d",&b);
48
49 // process of swapping a and b
50
51 c=a;
52 a=b;
53 b=c;
54
55 //Printing the swapped values of 'a' and 'b'
56
57 printf("\nswapped value of a is: %d",a);
58 printf("\nSwapped value of b is: %d",b);
59
60 return 0;
61 }

```

Enter the value of a: 1

Enter the value of b: 2

swapped value of a is: 2

Swapped value of b is: 1

Enter the value of a: 3

Enter the value of b: 4

swapped value of a is: 4

Swapped value of b is: 3

```
1 //.....Question-6.....//
2
3 #include<stdio.h>
4 int main(){
5
6 // declaring variables
7
8     float n;
9
10 // Scanning the value
11
12     printf("Enter the number: ");
13     scanf("%f",&n);
14
15 // checking wheter the number is positive or negative or zero and pprinting accordir
16
17     if(n>0){
18         printf("Entered value is positive");
19     }
20     else if(n<0){
21         printf("Entered value is negative");
22     }
23     else{
24         printf("Entered value is zero");
25     }
26 }
27 return 0;
28 }
```

```
(%.f) [ %.asqo ]
```

Enter the number: 3

Entered value is positive

PS D:\fcp lab\assignment 5> █

```
1 //.....Question-7.....//
2
3 #include<stdio.h>
4 int main(){
5
6 // declaring variables
7
8     float n1,n2,n3;
9
10 // Scanning the values from user
11
12     printf("Enter the side 1: ");
13     scanf("%f",&n1);
14
15     printf("\nEnter the side 2: ");
16     scanf("%f",&n2);
17
18     printf("\nEnter the side 3: ");
19     scanf("%f",&n3);
20
21 // Checking wheter the triangle is equilateral,isoscles,or scalene
22
23     if((n1==n2)&&(n2==n3)){
24         printf("Equilateral triangle");
25
26     }
27
28     if(n1==n2||n1==n3||n2==n3){
29         printf("\nIsosceles triangle");
30     }
31     else{
32         printf("\nScalene traingle");
33     }
34
35     return 0;
36 }
```

Enter the side 1: 1

Enter the side 2: 2

Enter the side 3: 3

Scalene traingle

PS D:\fcp lab\assignment 5> █

```
1 //.....Question-8.....//
```

```
2  
3 #include<stdio.h>
```

```
4 #include<math.h> //because we will be using square root
```

```
5 int main(){
```

```
6  
7 // declaring variables
```

```
8  
9 float a, b, c, discriminant, root1, root2, realPart, imagPart;
```

```
10  
11 // Scanning the values from user
```

```
12  
13 printf("Let a quadratic be  $a(x^2)+b(x)+c=0$ ");
```

```
14  
15 printf("\nEnter the value of a: ");
```

```
16 scanf("%f",&a);
```

```
17  
18 printf("\nEnter the value of b: ");
```

```
19 scanf("%f",&b);
```

```
20  
21 printf("\nEnter the value of c: ");
```

```
22 scanf("%f",&c);
```

```
23  
24 // condition for real and different roots
```

```
25 if (discriminant > 0) {
```

```
26     root1 = (-b + sqrt(discriminant)) / (2 * a);
```

```
27     root2 = (-b - sqrt(discriminant)) / (2 * a);
```

```
28     printf("root1 = %0.2f and root2 = %0.2f", root1, root2);
```

```
29 }
```

```
30  
31 // condition for real and equal roots
```

```
32 else if (discriminant == 0) {
```

```
33     root1 = root2 = -b / (2 * a);
```

```
34     printf("root1 = root2 = %0.2f;", root1);
```

```
35 }
```

```
36  
37 // if roots are not real
```

```
38 else {
```

```
39     realPart = -b / (2 * a);
```

```
40     imagPart = sqrt(-discriminant) / (2 * a);
```

```
41     printf("root1 = %0.2f+%0.2fi and root2 = %0.2f-%0.2fi", realPart, imagPart, realPart, imagPart);
```

```
42 }
```

```
43  
44  
45 return 0;
```

```
46 }
```

```
PS D:\fcp lab\assignment 5> cd "d:\fcp lab\assignment 5\" ; if ($?) { gcc a5q8.c -o a5q8 } ; if ($?) { .\a5q8 }
```

Let a quadratic be $a(x^2)+b(x)+c=0$

Enter the value of a: 1

Enter the value of b: 2

Enter the value of c: 3

root1 = -1.00 and root2 = -1.00


```
1 //.....Question-9.....//
2
3 #include<stdio.h>
4 int main(){
5
6 // declaring variables
7
8     int i,sum,n;
9
10 // scanning variables from user
11
12     printf("Enter the number: ");
13     scanf("%d",&n);
14
15 // looping statement
16
17     for(i=1,sum=0;i<=n;i++){
18         sum=sum+i;
19     }
20
21
22 // printing the sum
23
24     printf("Sum : %d",sum);
25
26     return 0;
27 }
```

```
PS D:\fcp lab\assignment 5> cd "d:\fcp lab\assignment 5\" ; if ($?) { gcc a5q9.c -o a5q9 } ; if ($?) { .\a5q9 }
```

Enter the number: 5

Sum : 15

```
1 //.....Question-10.....//
2
3 #include<stdio.h>
4 int main(){
5
6 // declaring variables
7
8     int n,i;
9
10 //scanning variables from user
11
12     printf("Enter the value of n: ");
13     scanf("%d",&n);
14
15 // looping and printing the value of cubes
16
17     for(i=1;i<=n;i++)
18         printf("\n%d",i*i*i);
19
20
21     return 0;
22 }
```

```
PS D:\fcp lab\assignment 5> cd "d:\fcp lab\assignment 5\" ; if ($?) { gcc a5q10.c -o a5q10 }  
if ($?) { .\a5q10 }
```

Enter the value of n: 3

1

8

27