

If-else

1. Write a C program to input temperature in Centigrade and convert to Fahrenheit.

Input:

```
#include<stdio.h>

int main()
{
    float celsius,fahrenheit;

    printf("Enter temperature in celsius=");
    scanf("%f",&celsius);

    fahrenheit=(celsius*9/5)+32;

    printf("%.2f celsius =%.0f fahrenheit",celsius,fahrenheit);

    return 0;
}
```

Output:

```
Enter temperature in celsius=38
38.00 celsius =100 fahrenheit
Process returned 0 (0x0)   execution time : 19.190 s
Press any key to continue.
```

2. Write a C program to input radius of a circle from user and find diameter, circumference and area of circle.

Input:

```
#include<stdio.h>

int main(){
    int rad,dia;

    float circumference,area;
```

```

printf("Enter radius=");
scanf("%d",&rad);
dia=2*rad;
circumference=2*3.14*rad;
area=3.14*rad*rad;
printf("Diameter=%d units\n",dia);
printf("Circumference=%.2f units\n",circumference);
printf("Area=%.2f sq. units\n",area);
return 0;
}

```

Output:

```

Enter radius=15
Diameter=30 units
Circumference=94.20 units
Area=706.50 sq. units

Process returned 0 (0x0)   execution time : 3.031 s
Press any key to continue.

```

3. Write a C program to input any numbers from user and swap values of both numbers using third variable, bitwise operator and arithmetic operators.

Input:

```

#include<stdio.h>

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

    printf("Enter two numbers:");

    scanf("%d %d",&a,&b); //using third variable

    temp=a;
    a=b;
    b=temp;
}

```

```
    printf("After swapping:a=%d,b=%d\n ",a,b);  
    return 0;  
}
```

Output:

```
Enter two numbers:4 6  
After swapping:a=6,b=4  
  
Process returned 0 (0x0)   execution time : 115.483 s  
Press any key to continue.
```

Input:

```
#include<stdio.h>  
  
int main(){  
    int a,b;  
    printf("Enter two numbers:");  
    scanf("%d %d",&a,&b); //bitwise XOR method  
    a=a^b;  
    b=a^b;  
    a=a^b;  
    printf("After swapping:a=%d,b=%d\n ",a,b);  
    return 0;  
}
```

Output:

```
Enter two numbers:3 6  
After swapping:a=6,b=3  
  
Process returned 0 (0x0)   execution time : 12.768 s  
Press any key to continue.
```

Input:

```
#include<stdio.h>  
  
int main(){  
    int a,b;  
    printf("Enter two numbers:");
```

```

scanf("%d %d",&a,&b); //using arithmetic operators
a=a+b;
b=a-b;
a=a-b;

printf("After swapping:a=%d,b=%d\n ",a,b);

return 0;
}

```

Output:

```

Enter two numbers:4 6
After swapping:a=6,b=4

Process returned 0 (0x0)   execution time : 8.608 s
Press any key to continue.

```

Input:

```

#include<stdio.h>

int main(){

    int a,b;

    printf("Enter two numbers:");

    scanf("%d %d",&a,&b); //using arithmetic operators

    a=a-b;

    b=a+b;

    a=a-b;

    printf("After swapping:a=%d,b=%d\n ",a,b);

return 0;

}

```

Output:

```

Enter two numbers:4 6
After swapping:a=-6,b=4

Process returned 0 (0x0)   execution time : 11.190 s
Press any key to continue.

```

Input:

```
#include<stdio.h>

int main(){

    int a,b;

    printf("Enter two numbers:");

    scanf("%d %d",&a,&b); //using arithmetic operators

    a=a*b;

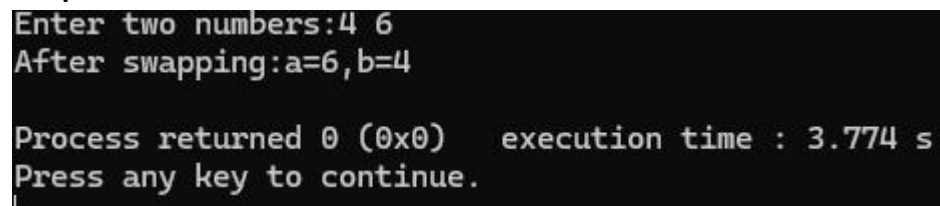
    b=a/b;

    a=a/b;

    printf("After swapping:a=%d,b=%d\n ",a,b);

    return 0;

}
```

Output:A screenshot of a terminal window showing the output of the C program. The first line is 'Enter two numbers:4 6'. The second line is 'After swapping:a=6,b=4'. The third line is 'Process returned 0 (0x0) execution time : 3.774 s'. The fourth line is 'Press any key to continue.'.

```
Enter two numbers:4 6
After swapping:a=6,b=4

Process returned 0 (0x0)   execution time : 3.774 s
Press any key to continue.
```

Input:

```
#include<stdio.h>

int main(){

    int a,b;

    printf("Enter two numbers:");

    scanf("%d %d",&a,&b); //using arithmetic operators

    a=a/b;

    b=a*b;

    a=a/b;

    printf("After swapping:a=%d,b=%d\n ",a,b);

    return 0;

}
```

```
}
```

[works only if: a and b are **non-zero integer** and **multiplication** doesn't overflow]

Output:

```
Enter two numbers:5 1
After swapping:a=1,b=5

Process returned 0 (0x0)   execution time : 6.303 s
Press any key to continue.
```

4. Write a C program to find maximum between three numbers using ladder if else or nested if.

Input:

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

```
int main(){

    int num1,num2,num3;

    printf("Enter Three numbers:");

    scanf("%d %d %d",&num1,&num2,&num3);

    if(num1>=num2 && num1>=num3){

        printf("%d is the maximum number\n",num1);

    }

    else if(num2>=num1 && num2>=num3){

        printf("%d is the maximum number\n",num2);

    }

    else{

        printf("%d is the maximum number\n",num3);

    }

    return 0;

}
```

Output:

```
Enter Three numbers:3 5 7
7 is the maximum number

Process returned 0 (0x0)   execution time : 26.830 s
Press any key to continue.
```

5. Write a C program to check a given year is leap year or not.

Input:

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

```
int main(){

    int year;

    printf("Enter a year:");

    scanf("%d",&year);

    if((year%4==0 && year%100!=0) || (year%400==0)){

        printf("%d is a leap year\n",year);

    }

    else{

        printf("%d is not a leap year\n",year);

    }

    return 0;

}
```

Output:

```
Enter a year:2004
2004 is a leap year

Process returned 0 (0x0)   execution time : 7.763 s
Press any key to continue.
```

Output:

```
Enter a year:2009
2009 is not a leap year

Process returned 0 (0x0)   execution time : 10.405 s
Press any key to continue.
```

6. Write a C program to input a character from user and check whether given

character is alphabet, uppercase, lowercase, digit or special character.

Input:

```
#include<stdio.h>

int main(){

    char ch;

    printf("Enter a character:");

    scanf("%c",&ch);

    if(ch>='A' && ch<='Z'){

        printf("Uppercase Alphabet\n",ch);

    }

    else if(ch>='a' && ch<='z'){

        printf("Lowercase Alphabet\n",ch);

    }

    else if(ch>='0' && ch<='9'){

        printf("%c is a digit\n",ch);

    }

    else{

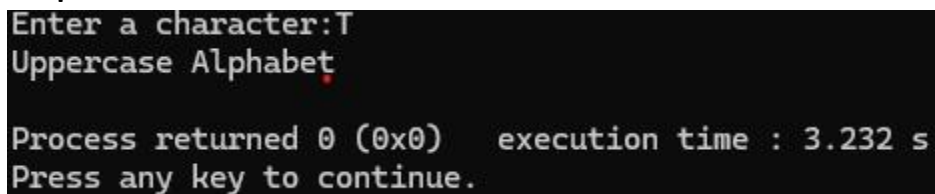
        printf("%c is a special character\n",ch);

    }

    return 0;

}
```

Output:

A screenshot of a terminal window showing the output of the program. The first line is 'Enter a character:T'. The second line is 'Uppercase Alphabet'. The third line is 'Process returned 0 (0x0) execution time : 3.232 s'. The fourth line is 'Press any key to continue.'.

```
Enter a character:T
Uppercase Alphabet
Process returned 0 (0x0) execution time : 3.232 s
Press any key to continue.
```

Output:


```
Enter a character:t
Lowercase Alphabet

Process returned 0 (0x0)   execution time : 10.373 s
Press any key to continue.
```

Output:

```
Enter a character:8
8 is a digit

Process returned 0 (0x0)   execution time : 5.202 s
Press any key to continue.
```

Output:

```
Enter a character: !
! is a special character

Process returned 0 (0x0)   execution time : 8.633 s
Press any key to continue.
```

7. Write a C program to check whether an alphabet is vowel or consonant.

Input:

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

```
int main(){
```

```
    char ch;
```

```
    printf("Enter a character:");
```

```
    scanf("%c",&ch);
```

```
    if((ch>='A' && ch<='Z') || (ch>='a' && ch<='z')){
```

```
        if(ch=='A' || ch=='E' || ch=='I' || ch=='O' || ch=='U' || ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u'){
```

```
            printf("%c is a vowel\n",ch);
```

```
        }
```

```
        else {
```

```
            printf("%c is a consonant\n",ch);
```

```
        }
```

```
    }
```

```

else{
    printf("%c is not an alphabet\n",ch);
}

return 0;
}

```

Output:

```

Enter a character:U
U is a vowel

Process returned 0 (0x0)   execution time : 37.399 s
Press any key to continue.

```

Output:

```

Enter a character:n
n is a consonant

Process returned 0 (0x0)   execution time : 6.348 s
Press any key to continue.

```

Output:

```

Enter a character:@
@ is not an alphabet

Process returned 0 (0x0)   execution time : 3.340 s
Press any key to continue.

```

8. Write a C program to calculate grade of student, If (i) number ≥ 80 : Grade A+, (ii) number ≥ 70 : Grade A, (iii) number between 60 to 70: Grade A-, (iv) number between 50 to 60: Grade B (v) number ≥ 40 : Grade C and and number < 40 : Grade F.

Input:

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

```
int main() {
```

```
    int number;
```

```
    printf("Enter the student's number: ");
```

```
    scanf("%d", &number);
```

```
    if (number  $\geq$  80) {
```

```
        printf("Grade A+\n");
```

```

} else if (number >= 70) {
    printf("Grade A\n");
} else if (number >= 60) {
    printf("Grade A-\n");
} else if (number >= 50) {
    printf("Grade B\n");
} else if (number >= 40) {
    printf("Grade C\n");
} else {
    printf("Grade F\n");
}
return 0;
}

```

Output:

```

Enter the student's number: 80
Grade A+

Process returned 0 (0x0)   execution time : 19.183 s
Press any key to continue.

```

9. Write a C program to input week number and print day of week name using switch case.

Input:

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

```
int main() {
```

```
    int week;
```

```
    printf("Enter week number(1-7): ");
```

```
    scanf("%d", &week);
```

```
    switch(week)
```

```
{
```

case 1:

```
    printf("Saturday");
```

```
    break;
```

case 2:

```
    printf("Sunday");
```

```
    break;
```

case 3:

```
    printf("Monday");
```

```
    break;
```

case 4:

```
    printf("Tuesday");
```

```
    break;
```

case 5:

```
    printf("Wednesday");
```

```
    break;
```

case 6:

```
    printf("Thursday");
```

```
    break;
```

case 7:

```
    printf("Friday");
```

```
    break;
```

default:

```
    printf("Invalid input! Please enter week number between 1-7");
```

```
}
```

```
return 0;
```

```
}
```

Output:

```
Enter week number(1-7): 3
Monday
Process returned 0 (0x0)   execution time : 12.674 s
Press any key to continue.
```

10. Write a C program to input a number and check the given number is odd or even.

Input:

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

```
int main() {
```

```
    int num;
```

```
    printf("Enter an integer: ");
```

```
    scanf("%d", &num);
```

```
    if (num % 2 == 0) {
```

```
        printf("%d is an even number.\n", num);
```

```
    } else {
```

```
        printf("%d is an odd number.\n", num);
```

```
    }
```

```
    return 0;
```

```
}
```

Output:

```
Enter an integer: 7
7 is an odd number.

Process returned 0 (0x0)   execution time : 9.026 s
Press any key to continue.
```