

```
#include <stdio.h>
int main(){
    int score=80;
    int big=75;
    if(score>big)
        printf("1Score is greater than big\n");
    if(score>big)
    {
        score++;
        printf("2Score is greater than big");
    }
}
```

1Score is greater than big

2Score is greater than big

```
#include <stdio.h>
int main(){
    int score=80;
    int big=75;
    if(score>big)
        printf("1Score is greater than big\n");
    if(score<big)
    {
        score++;
        printf("2Score is greater than big");
    }
}
```

1Score is greater than big

Qn.Check whether the number is positive and print("it's a positive number").

```
#include <stdio.h>
int main(){
    int num;
    printf("Enter the number:");
    scanf("%d",&num);
    if(num>0)
        printf("its a positive number\n");
    printf("The program execution is over");
}
```

return 0;

}

Enter the number:6

its a positive number

The program execution is over

Qn2.To check whether the number is even.program will ask for user input.

```
#include <stdio.h>
int main(){
    int num;
    printf("Enter the number:");
    scanf("%d",&num);
    if(num%2==0)
        printf("its an even number\n");
}
```

```
printf("The program execution is over");
```

```
return 0;
```

```
}
```

Enter the number:2

its an even number

The program execution is over

Enter the number:3

The program execution is over

Qn1.WAP to check for a valid triangle.

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

```
int main(){
```

```
int a,b,c;
```

```
printf("Enter the sides of the traingle:\n");
```

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

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

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

```
if((a+b>c)&&(b+c>a)&&(c+a>b))
```

```
printf("This is vailid triangle\n");
```

```
printf("The program execution is over");
```

```
return 0;
```

```
}
```

Enter the sides of the traingle:

2

3

4

This is vailid triangle

The program execution is over

2)Qn2.WAP to check if a character is an alphabet

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

```
int main()
```

```
{
```

```
char A;
```

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

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

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

```
{
```

```
printf("%c is an alphabet",A);
```

```
}else{
```

```
printf("%c is not an alphabet",A);
```

```
}
```

```
return 0;
```

```
}
```

OUTPUT

Enter a character:A
A is an alphabet

3)//Qn3. .WAP to check if a number is divisible by 3

```
#include<stdio.h>
int main()
{
    int num;
    printf("enter a number:");
    scanf("%d",&num);
    if(num%3==0){
        printf("%d is divisible by 3",num);
    }
    else{
        printf("%d is not divisible by 3",num);
    }
}
```

OUTPUT

enter a number:5
5 is not divisible by 3

4)//Qn4. WAP to check if a year is leap year

```
#include<stdio.h>
int main()
{
    int year;
    printf("enter YEAR:");
    scanf("%d",&year);
    if((year%4==0 && year%100!=0)||year%400==0){
        printf("%d is leap year",year);
    }
    else{
        printf("%d is not a leap year",year);
    }
}
```

OUTPUT

enter YEAR:2015
2015 is not leap year

5)///WAP to check for Uppercase characters

```
#include<stdio.h>
int main()
{
    char ch;
    printf("enter a character:");
    scanf("%c",&ch);
    if(ch>='A' && ch<='Z'){
        printf("%c is a uppercase character",ch);
    }
    else{
        printf("%c is not a uppercase character",ch);
    }
}
```

OUTPUT

Enter a character:a
A is not a uppercase character

6)///WAP to check for special character

```
#include<stdio.h>
int main()
{
    char ch;
    printf("enter a character:");
    scanf("%c",&ch);
    if((ch>='A' && ch<='Z')||(ch>='a' && ch<='z')){
        printf("%c is a alphabet",ch);
    }
    else if(ch>=0 || ch<=9){
        printf("%c is digit",ch);
    }
    else{
        printf("%c is a special character",ch);
    }
}
```

OUTPUT

Enter a character:3
3 is a digit

Qn.WAP to check whether a number is even or odd

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

```
int main(){
    int num;
    printf("Enter the number:");
    scanf("%d",&num);
    int c=num%2;
    if(0==c)
        printf("its an even number\n");
    else
        printf("its an odd number\n");
    printf("The program execution is over");

    return 0;
}
```

Enter the number:60

its an even number

The program execution is over

Qn.WAP to determine the sign of a value

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

```
int main(){
    int num,sign;
    printf("Enter the number:");
    scanf("%d",&num);
    if(num>0){
        sign=+1;
        printf("The number is having a positive sign value\n");
    }
    else if(0==num)
        sign=0;
    else{
        sign=-1;
        printf("The number is having a negative sign value\n");
    }
}
```

```
printf("The program execution is over");
```

```
return 0;
}
```

Enter the number:9

The number is having a positive sign value

The program execution is over

Enter the number:-9

The number is having a negative sign value

The program execution is over

Enter the number:0

The program execution is over

Qn.wap for voting eligibility

```

/inputs: age
//Comparison: >=
//Control Statements: if....else
//How many Variables: 1
//Datatype of the variable: int
//Prferred Scope of the variable: local
#include <stdio.h>
int main(){
    int age;
    printf("Enter your age:");
    scanf("%d",&age);
    if(age>=18){
        printf("You are eligible for voting\n");
    }
    else{
        printf("You are not eligible for voting!!!\n");
    }

    printf("The program execution is over");

    return 0;
}

```

```

Enter your age:3
You are not eligible for voting
The program execution is over
Enter your age:19
You are eligible for voting
The program execution is over!!!

```

Qn.WAP to determine the largest of 3 numbers

```

/inputs: a,b,c
//Comparison: >
//Control Statements: if,elseif,else
//How many Variables: 3
//Datatype of the variable: int
//Prferred Scope of the variable: local
#include <stdio.h>
int main(){
    int a,b,c;
    printf("Enter the numbers:\n");
    scanf("%d %d %d",&a,&b,&c);
    if((a>b)&&(a>c)){
        printf("The number %d is the largest\n",a);
    }
    else if((b>a)&&(b>c)){
        printf("The number %d is the largest\n",b);
    }
    else{
        printf("The number%d is the largest\n",c);
    }
}

```

```
}
```

```
printf("The program execution is over");
```

```
return 0;
```

```
}
```

Enter the numbers:

1

2

3

The number3 is the largest

The program execution is over

Qn.WAP to determine the grade of a student based on following

GRADE A= marks>=90

GRADE B= marks>=80 and marks<90

GRADE C = marks>=70 and marks<80

GRADE D= marks>=60 and marks<70

GRADE F= marks<60

/inputs: mark

//Comparison: >=,>,<

//Control Statements: if,elseif,else

//How many Variables: 1

//Datatype of the variable: int

//Prferred Scope of the variable: local

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

```
int main(){
```

```
int mark;
```

```
printf("Enter the mark:\n");
```

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

```
if(mark>0){
```

```
if(mark>=90){
```

```
printf("GRADE A");
```

```
}
```

```
else if((mark>=80)&&(mark<90)){
```

```
printf("GRADE B");
```

```
}
```

```
else if((mark>=70)&&(mark<80)){
```

```
printf("GRADE c");
```

```
}
```

```
else if((mark>=60)&&(mark<70)){
```

```
printf("GRADE D");
```

```
}
```

```
else if(mark<60){
```

```
printf("GRADE F");
```

```
}
```

```
}
```

```
else{
```

```
printf("Invalid marks");

}
return 0;
}
```

Enter the mark:

56

GRADE F

Enter the mark:

-9

Invalid marks

Q)//Qn. WAP to calculate the electricity bill based on the formula mentioned below

//Calculations

//To calculate your electricity bill, follow these steps:

//Watts = (amps) x (volts)

//Kilowatt-hours = (watts) x (usage) / 1000.

//Cost = (kilowatt-hours) x (electricity rate)

//1. Subtract the current meter reading from the previous month's reading to find the energy consumption.

//2. Multiply the units consumed by the per-unit charges based on the applicable slabs (e.g., Rs.

//4.22 for 1-100 units,

//Rs. 5.02 for 101-200 units).

//3. Add the fixed charge and energy duty (e.g., Rs. 40 fixed charge and Rs. 0.15 per unit) to the

//energy charges.

//4. The sum of the energy charges, fixed charge, and energy duty gives you the total bill amount.

//Example: If you consumed 250 units with the applicable slabs mentioned above, the energy charges would be Rs. 1218.

//Adding the fixed charge and energy duty, the total bill amount would be Rs. 1296.

#include<stdio.h>

int main()

```
{
    int current,previous,units;
    float units_charges;
    float fixed_charge=40,energy_duty=0.15;
    printf("enter current reading");
    scanf("%d",&current);
    printf("enter previous reading");
    scanf("%d",&previous);
```



```

units=current-previous;
if(units>=1 && units<=100){
    units_charges=units*4.22;
}
else if(units>=101 && units<=200){
    units_charges=100*4.22+(units-100)*5.02;
}
else{
    units_charges=100*4.22+100*5.02+(units-200)*6;
}
float cost=units_charges+fixed_charge+units*energy_duty;
printf("the cost is %f",cost);
}

```

OUTPUT

```

Enter current reading:250
Enter previous reading:0
Cost is 1301.500000

```

Q)Qn. In this challenge, you are to create a C program that calculates your weekly pay. • The program should ask the user to enter the number of hours worked in a week via the keyboard • The program should display as output the gross pay, the taxes, and the net pay • The following assumptions should be made: • Basic pay rate = \$12.00/hr • Overtime (in excess of 40 hours) = time and a half • Tax rate: • 15% of the first \$300 20% of the next \$150 • 25% of the rest • You will need to utilize if/else statements

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

```

int main()
{
    int hours;
    float salary, tax_percent, taxes, netpay;

    printf("Enter the number of hours worked in a weekend: ");
    scanf("%d", &hours);
    printf("Enter tax percent: ");

```

```

scanf("%f", &tax_percent);

if (hours <= 40) {
    salary = 12 * hours;
} else {
    salary = 12 * 40 + (hours - 40) * 12 * 1.5;
}

if (salary >= 300) {
    taxes = (tax_percent / 100) * salary;
} else if (salary > 300 && salary <= 450) {
    taxes = (tax_percent / 100) * salary;
} else {
    taxes = (tax_percent / 100) * salary;
}

netpay = salary - taxes;

printf("Gross pay is %f\n", salary);
printf("Taxes = %f\n", taxes);
printf("Net pay = %f\n", netpay);

return 0;
}

```

Switch Case

```

#include <stdio.h>
int main()
{
    int num ;
    printf("Enter numbers between 1 to 4");
    scanf("%d",&num);
    switch(num){
    case 1:
        printf("1 is entered");
        break;
    case 2:
        printf("2 is entered");
        break;
    case 3:
        printf("3 is entered");

```

```

break;
case 4:
printf("4 is entered");
break;
default:
printf("wrong entry");

```

```

}
return 0;
}

```

Enter numbers between 1 to 4

3

3 is entered

Qn.WAP using switch case for calculator

When you press += Addition of two numbers

When you press -= Subtraction of two numbers

When you press *= Multiplication of two numbers

When you press /= Division of two numbers

When you press %= Modulo operation of two numbers

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

```
int main() {
```

```
    int num1, num2;
```

```
    char op;
```

```
    printf("Enter two numbers:\n");
```

```
    scanf("%d", &num1);
```

```
    scanf("%d", &num2);
```

```
    printf("Enter the operator (+, -, *, /, %%):\n");
```

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

```
    switch (op) {
```

```
        case '+':
```

```
            printf("Addition of two numbers is %d\n", (num1 + num2));
```

```
            break;
```

```
        case '-':
```

```
            printf("Subtraction of two numbers is %d\n", (num1 - num2));
```

```
            break;
```

```
        case '*':
```

```
            printf("Multiplication of two numbers is %d\n", (num1 * num2));
```

```
            break;
```

```
        case '/':
```

```
            if (num2 != 0) {
```

```
                printf("Division of two numbers is %d\n", (num1 / num2));
```

```
            } else {
```

```
                printf("Error! Division by zero.\n");
```

```
            }
```

```
            break;
```

```
        case '%':
```

```
            if (num2 != 0) {
```

```

printf("Modulo operation of two numbers is %d\n", (num1 % num2));
} else {
printf("Error! Modulo by zero.\n");
}
break;
default:
printf("Invalid operator entered.\n");
break;
}
return 0;
}

```

Enter two numbers:

4

2

Enter the operator (+, -, *, /, %):

+

Addition of two numbers is 6

LOOPING

Qn.WAP to print the values between 1 to 10 using while loop

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

```

int main() {
    int i=1;
    while(i<=10){
        Printf("%d",i);
        i++;}
    return 0;
}

```

1

2

3

4

5

6

7

8

9

10

Qn.WAP to calculate the sum of natural numbers

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

```

int main() {
    int i=1,sum=0,num;
    printf("Enter the natural number for summation:\n");
    scanf("%d \n",&num);
    while(i<=num){
        sum=sum+i;
        i=i+1;
    }
}

```

```
printf("%d",sum);
return 0;
}
```

Enter the natural number for summation:20

210

Qn.WAP to print even numbers upto a given number

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

```
int main()
{
    int n,i=2;
    printf("Enter a number");
    scanf("%d",&n);
    while(i<=n)
    {
        printf("%d ->",i);
        i+=2;
    }
    return 0;
}
```

Enter a number20

2 ->4 ->6 ->8 ->10 ->12 ->14 ->16 ->18 ->20 ->

Qn.WAP to reverse a number

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

```
int main() {
    int num, reversed = 0, remainder;
    printf("Enter a number: ");
    scanf("%d", &num);
    while (num != 0) {
        remainder = num % 10;
        reversed = reversed * 10 + remainder;
        num /= 10;
    }
    printf("Reversed number: %d\n", reversed);
    return 0;
}
```

Enter a number: 123

Reversed number: 321

Qn.WAP to count the number of digits in a number using while loop

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

```
int main() {
    int num, count = 0, remainder;
    printf("Enter a number: ");
    scanf("%d", &num);
    while (num != 0) {
        remainder = num % 10;
        num /= 10;
        count++;
    }
}
```

```
printf("The number of digits in a number is: %d\n", count);
return 0;
}
```

Enter a number: 123
The number of digits in a number is: 3

ASSIGNMENT

1)1. WAP to factorial of a number

```
#include<stdio.h>
int main()
{
    int num,fact=1,i=1;
    printf("enter a number");
    scanf("%d",&num);
    while(i<=num)
    {
        fact=fact*i;
        i++;
    }
    printf("factorial of %d is %d",num,fact);
}
```

OUTPUT

Enter a number:6
Factorial of 6 is 720

2)FIBBINOCAE

//1. WAP to print Fibonacci Series up to a Given Number.

```
#include<stdio.h>
int main()
{
    int limit,n1=0,n2=1,n3,i=1;
    printf("enter limit");
    scanf("%d",&limit);
    while(i<=limit)
    {
```

```

        n3=n1+n2;
        n1=n2;
        n2=n3;
        i++;
    }
    printf("fabinoccae series=%d",n3);
}

```

```

3)#include <stdio.h>
int main() {
    int num, i = 2;
    int is_prime = 1;
    printf("Enter a number: ");
    scanf("%d", &num);
    if (num <= 1) {
        is_prime = 0;
    }
    while (i <= num / 2) {
        if (num % i == 0) {
            is_prime = 0;
            break;
        }
        i++;
    }
    if (is_prime) {
        printf("%d is a prime number.\n", num);
    } else {
        printf("%d is not a prime number.\n", num);
    }
    return 0;
}

```

Enter a number: 7
7 is a prime number

4)PRINT LOWECASE LETTERS

```

#include<stdio.h>
int main()
{
    char ch;

```

```
printf("enter character limit");  
scanf(" %c",&ch);  
while(ch<='z')  
{  
    printf("%c\t",ch);  
    ch++;  
}  
return 0;  
}
```