

1.Number Checking

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

```
int main()
{
    int a,b;
    printf("enter a number");
    scanf("%d",&a);
    printf("enter second number");
    scanf("%d",&b);
    if(a=b){
        printf("both are equal");
    }
    else{
        printf("not equal");
    }

    return 0;
}
```

2.Checking Greater number

```
int main()
{
    int a,b;
    printf("enter a number");
    scanf("%d",&a);
    printf("enter second number");
    scanf("%d",&b);
    if(a>b){
        printf("a is greater");
    }
    else{
        printf("b is greater");
    }

    return 0;
}
```

3.Positive number

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

```
int main()
{
    int a,b;
    printf("enter a number");
    scanf("%d",&a);
    // printf("enter second number");
    // scanf("%d",&b);
    if(a>0){
        printf("a is positive");
    }
    else{
        printf("a is negative");
    }

    return 0;
}
```

4.Checking Rectangle

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

```
int main()
{
    int a,b;
    printf("enter the length");
    scanf("%d",&a);
    printf("enter the breadth");
    scanf("%d",&b);
    if(a>0&&b>0){
        printf("It is a rectangle");
    }
    else{
        printf("not a rectangle");
    }

    return 0;
}
```

5.Mark of a Student

```
int main()
{
    int a;
    printf("enter the mark of the student");
    scanf("%d",&a);
    //printf("enter the breadth");
    //scanf("%d",&b);
    if(a>40){
        printf("Student is passed");
    }
    else{
        printf("not passed");
    }

    return 0;
}
```

6.Number lies between

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

```
int main()
{
    int a;
    printf("enter the number");
    scanf("%d",&a);
    //printf("enter the breadth");
    //scanf("%d",&b);
    if(a>10&&a<50){
        printf("Number is lies between 10 and 50");
    }
    else{
        printf("not lies between 10 and 50");
    }

    return 0;
}
```

7.Character check

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

```
int main()
{
    char ch;
    printf("enter the character");
    scanf("%c",&ch);
    if(ch>="a"&&ch<="z")
    {
        printf("character is between a and z");
    }
    else
    {
        printf("character is not between a and z");
    }
}
```

8.Age of Persons

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

```
int main()
{
    int a,b;
    printf("enter the age of person1");
    scanf("%d",&a);
    printf("enter the age of person2");
    scanf("%d",&b);
    if(a>b){
        printf("person1 is older");
    }
    else if(b>a){
        printf("person2 is older");
    }
    else{
        printf("both are of same age");
    }
}
```

9.Weight checking

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

```
int main()
{
    int a;
    printf("enter the weight");
    scanf("%d",&a);
    //printf("enter the age of person2");
    //scanf("%d",&b);
    if(a>50){
        printf("Weight exceeds maximum limit");
    }
    else{
        printf("Weight is in the limit");
    }
}
```

10.Checking Area

```
#include<stdio.h>

int main()
{
    int a,b,c,d,A1,A2;
    printf("enter the length and breadth of T1");
    scanf("%d %d",&a,&b);
    printf("enter the length and breadth of T2");
    scanf("%d %d",&c,&d);
    printf("Area of T1 is:%d \n",A1=a*b);
    printf("Area of T2 is:%d \n",A2=c*d);

    if(A1>A2){
        printf("T1 got larger area");
    }
    else{
        printf("T2 got larger area");
    }
}
```

BITWISE OPERATIONS

1.AND operations

```
#include <stdio.h>
int main()
{
    unsigned int a = 5, b = 9;
    printf("a = %d, b = %d\n", a, b);
    printf("a&b = %u\n", a & b);
}
```

2.OR

```
#include <stdio.h>
int main()
{
    unsigned int a = 5, b = 9;
    printf("a = %d, b = %d\n", a, b);
    printf("a&b = %u\n", a | b);
}
```

3.XOR

```
#include <stdio.h>
int main()
{
    unsigned int a = 5, b = 9;
    printf("a = %d, b = %d\n", a, b);
    printf("a&b = %u\n", a ^ b);
}
```

4.Compliment

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

```
int main()
```

```

{
    int n = 2;
    printf("Bitwise complement of %d : %d",
        n, ~n);
    return 0;
}

```

6. Converted bit

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

```

int main()
{
    int n = 10, p = 2, C;
    printf("Converted bit is %d \n", C = ((1 << p) | n));
    return 0;
}

```

7. Clearing bit

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

```

void main() {
    int n, p, m;
    printf("Enter the integer and position \n");
    scanf("%d %d", &n, &p);
    m = ~(1 << p);
    printf("Result is %d", n & m);
}

```

5. Toggling

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

```

void main() {
    int n, p;
    printf("Enter the integer and position \n");
    scanf("%d %d", &n, &p);
    int m = 1 << p;
    n = n ^ m;
    printf("Result is %d \n", p, n);
}

```

Whole Operations

1. Arithmetic, Relational, Bitwise

```

#include <stdio.h>
void main() {
    int n;
    printf("Enter the integer \n");
    scanf("%d", &n);
    if (n % 5 == 0 && n > 50)
        printf("the number is divisible by 5 and greater than 50: %d \n", n);
    if (n & 1)
        printf("LSB of %d is set (1).", n);
    else
        printf("LSB of %d is unset (0).", n);
}

```

5. Sum and Product

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

```

void main() {
    int a, b, S, P, p;
}

```

```

printf("Enter the num1 \n");
scanf("%d",&a);
printf("Enter the num2 \n");
scanf("%d",&b);
printf("Enter the positon");
scanf("%d",&p);
printf("The sum is: %d \n",S=a+b);
printf("The product is: %d \n",P=a*b);
if(S>100&&P%4==0)
{
    printf("Verified");
}
else{
    printf("not verified \n");
}
int result=a&(1<<p);
printf("Result=%d\n",result);
}

```

2.Togling and checking

```

#include<stdio.h>
void main(){
    int n,p,R;
    printf("Enter the num1 \n");
    scanf("%d",&n);
    //printf("Enter the num2 \n");
    //scanf("%d",&b);
    printf("Enter the positon");
    scanf("%d",&p);
    int m=1<<p;
    R = n ^ m;
    printf("Result is %d\n",p,R);
    if(R>0&&R%2==0){
        printf("Verified");
    }
    else{
        printf("not verified");
    }
}

```

3.Voting Criteia

```

#include<stdio.h>
void main(){
    int age,verify=0;
    printf("Enter the age \n");
    scanf("%d",&age);
    if(age>=18){
        int id;
        printf("enter your id");
        scanf("%d",&id);
        int mv=1<<0;
        if((mv&id)!=verify){
            printf("eligible to vote");
        }
        else{
            printf("not eligible");
        }
    }
}

```

```

    }
}else{
    printf("not eligible");
}
}

```

4. OR and AND

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

```

int main()
{
    int n;
    printf("Enter the num:");
    scanf("%d",&n);

    int p;
    printf("Enter the position:");
    scanf("%d",&p);

    int R=n|(1<<p);
    printf("Result=%d\n",R);

    int p1;
    printf("Enter the position1:");
    scanf("%d",&p1);

    int R1=R&(~(1<<p1));
    printf("Result1=%d\n",R1);

    if(R1%2!=0 && R1>0 && R1<500){
        printf("Condition Satisfied");
    }
    else{
        printf("Not Satisfied");
    }
}

```

Conditional Statements

1.Positive

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

```

int main()
{
    int a;
    printf("enter a number");
    scanf("%d",&a);
    if(a>0){
        printf("a is positive");
    }
    else{
        printf("a is negative");
    }

    return 0;
}

```

2.Divisibility check

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

```

void main(){
    int a;
    printf("Enter the number\n");
    scanf("%d",&a);
    if(a%3==0){
        printf("Divisible by 3");
    }
    else{
        printf("not Divisible");
    }
}

```

3.Odd or Even

```

#include<stdio.h>
void main(){
    int a;
    printf("Enter the number\n");
    scanf("%d",&a);
    if(a%2==0){
        printf("a is even");
    }
    else{
        printf("a is odd");
    }
}

```

4.Student mark check

```

#include<stdio.h>
void main(){
    int a;
    printf("Enter the student mark\n");
    scanf("%d",&a);
    if(a>40){
        if(a<100){
            printf("Student is passed");
        }else{
            printf("not applicable");
        }
    }
    else{
        printf("Student is failed");
    }
}

```

5.Triangle checking

```

#include<stdio.h>
void main(){
    int a,b,c;
    printf("Enter the side1\n");
    scanf("%d",&a);
    printf("Enter the side2\n");
    scanf("%d",&b);
    printf("Enter the side3\n");
    scanf("%d",&c);
    if((a+b)>c||(b+c)>a||(a+c)>b){
        if(a=b=c){
            printf("Its an Equilateral Triangle");
        }
    }
}

```



```

    else{
        printf("normal triangle");
    }
}
else{
    printf("Not a triangle");

}
}

```

6.Student mark

```

#include<stdio.h>
void main(){
    int M1,M2,Total;
    printf("Enter the Mark1\n");
    scanf("%d",&M1);
    printf("Enter the Mark2\n");
    scanf("%d",&M2);
    printf("total mark is:%d\n",Total=M1+M2);
    if(M1>=50&&M2>=50){
        if(Total>=120){
            printf("Student is Eligible");
        }
        else{
            printf("not eligible");
        }
    }
    else{
        printf("not eligible");
    }
}

```

7.

```

#include<stdio.h>
void main(){
    int M1;
    printf("Enter the Mark1\n");
    scanf("%d",&M1);
    if(M1=90){
        printf("GRADE A");
    }
    else if(M1=75){
        printf("GRADE B");
    }
    else if(M1=50){
        printf("GRADE C");
    }
    else if(M1<50){
        printf("Failed");
    }
    else{
        printf("not applicable");
    }
}

```

8.Positive or Negative

```

#include<stdio.h>

```

```

int main()
{

```

```

int num;

scanf("%d",&num);

if(num == 0)
    printf("Neither positive nor negative");
else if(num < 0)
    printf("Negative");
else
    printf("Positive");

return 0;
}
9.

```

```

#include<stdio.h>
void main(){
    int unit;
    printf("enter the units");
    scanf("%d",&unit);
    if(unit<=100)
        printf("charge is %d\n",unit*5);
    else if(unit<=200)
        printf("charge is %d\n",unit*7);
    else
        printf("charge is %d\n",unit*10);
}

```

```

10.Days
#include<stdio.h>
void main(){
    int a;
    printf("enter a number of the day");
    scanf("%d",&a);
    if(a==1)
        printf("Monday\n");
    else if(a==2)
        printf("Tuesday\n");
    else if(a==3)
        printf("Wednesday\n");
    else if(a==4)
        printf("Thursday\n");
    else if(a==5)
        printf("Friday\n");
    else if(a==6)
        printf("Saturday\n");
    else if(a==7)
        printf("Sunday\n");
    else
        printf("invalid number");
}

```

SWITCH CASES

```

-----
1.DAYS
#include <stdio.h>

```

```

int main()
{
    int week;
    printf("Enter week number(1-7): ");
    scanf("%d", &week);

    switch(week)
    {
        case 1:
            printf("Monday");
            break;
        case 2:
            printf("Tuesday");
            break;
        case 3:
            printf("Wednesday");
            break;
        case 4:
            printf("Thursday");
            break;
        case 5:
            printf("Friday");
            break;
        case 6:
            printf("Saturday");
            break;
        case 7:
            printf("Sunday");
            break;
        default:
            printf("Invalid input! Please enter week number between 1-7.");
    }

    return 0;
}

```

2.Arthematic Operations

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

```

int main()
{
    int a,b;
    int op;
    printf(" 1.Addition\n 2.Subtraction\n 3.Multiplication\n 4.Division\n");
    printf("Enter the values of a & b: ");
    scanf("%d %d",&a,&b);
    printf("Enter your Choice : ");
    scanf("%d",&op);
    switch(op)
    {
        case 1 :
            printf("Sum of %d and %d is : %d",a,b,a+b);
            break;
        case 2 :
            printf("Difference of %d and %d is : %d",a,b,a-b);
            break;
        case 3 :

```

```

        printf("Multiplication of %d and %d is : %d",a,b,a*b);
        break;
    case 4 :
        printf("Division of Two Numbers is %d : ",a/b);
        break;
    default :
        printf(" Enter Your Correct Choice.");
        break;
    }
    return 0;
}
3.VOWEL/CONSONENT
#include <stdio.h>

```

```

int main()
{
    char ch;
    printf("Enter any alphabet: ");
    scanf("%c", &ch);
    switch(ch)
    {
        case 'a':
            printf("Vowel");
            break;
        case 'e':
            printf("Vowel");
            break;
        case 'i':
            printf("Vowel");
            break;
        case 'o':
            printf("Vowel");
            break;
        case 'u':
            printf("Vowel");
            break;
        case 'A':
            printf("Vowel");
            break;
        case 'E':
            printf("Vowel");
            break;
        case 'I':
            printf("Vowel");
            break;
        case 'O':
            printf("Vowel");
            break;
        case 'U':
            printf("Vowel");
            break;
        default:
            printf("Consonant");
    }
}

```

```
        return 0;
    }
4.Number To Words
#include <stdio.h>

int main()
{
    int op;
    printf("Enter your Choice : ");
    scanf("%d",&op);
    switch(op)
    {
        case 1:
            printf("ONE");
            break;
        case 2:
            printf("TWO");
            break;
        case 3:
            printf("THREE");
            break;
        case 4:
            printf("FOUR");
            break;
        case 5:
            printf("FIVE");
            break;
        case 6:
            printf("SIX");
            break;
        case 7:
            printf("SEVEN");
            break;
        case 8:
            printf("EIGHT");
            break;
        case 9:
            printf("NINE");
            break;
        case 0:
            printf("ZERO");
            break;
        default:
            printf("NOT NUMBER");
    }

    return 0;
}
```

5.MONTHS

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

```
int main()
{
    int op;
    printf("Enter your Choice : ");
```

```

scanf("%d",&op);
switch(op)
{
    case 1:
        printf("JANUARY");
        break;
    case 2:
        printf("FEBRUARY");
        break;
    case 3:
        printf("MARCH");
        break;
    case 4:
        printf("APRIL");
        break;
    case 5:
        printf("MAY");
        break;
    case 6:
        printf("JUNE");
        break;
    case 7:
        printf("JULY");
        break;
    case 8:
        printf("AUGUST");
        break;
    case 9:
        printf("SEPTEMBER");
        break;
    case 10:
        printf("OCTOBER");
        break;
    case 11:
        printf("NOVEMBER");
        break;
    case 12:
        printf("DECEMBER");
        break;
    default:
        printf("NOT NUMBER");
}

```

```

return 0;

```

```

}

```

6.

```

#include <stdio.h>

```

```

int main()

```

```

{

```

```

    char ch;

```

```

    printf("select a grade from \nA\nB\nC\nD\nE\nF");

```

```

    scanf("%d",&ch);

```

```

    switch(ch)

```

```

    {

```

```

case 'A':
    printf("Excellent");
    break;
case 'B':
    printf("Good");
    break;
case 'C':
    printf("Average");
    break;
case 'D':
    printf("Below average");
    break;
case 'E':
    printf("Passed");
    break;
case 'F':
    printf("Failed");
    break;
default:printf("invalid choice");
    break;
}

    return 0;
}

```

7. Leap Year

```

#include <stdio.h>
int main() {
    int year, y;
    printf("Enter the year: ");
    scanf("%d", &year);
    y = year % 400 == 0 || year % 100 == 0 || year % 4 == 0;
    switch (y) {
        case 1:
            printf("%d is a leap year.\n", year);
            break;
        case 0:
            printf("%d is not a leap year.\n", year);
            break;
        default:
            printf("Invalid input.\n");
    }
    return 0;
}

```

8. Signal

```

#include <stdio.h>

int main()
{
    char ch;
    printf("select a signal from \nR\nY\nG\n");
    scanf("%d",&ch);
    switch(ch)
    {
        case 'R':

```

```

        printf("STOP THE VEHICLE");
        break;
    case 'Y':
        printf("GET READY");
        break;
    case 'G':
        printf("YOU CAN GO");
        break;
    default:
        printf("invalid choice");
        break;
}
return 0;
}
9.AREA
#include <stdio.h>
int main() {
    int choice;
    float area,r,l,b,base,height;
    printf("\nselect the shape from the following\n1.circle\n2.rectangle\n3.triangle\n");
    scanf("%d",&choice);
    switch(choice)
    {
        case 1:
            printf("enter the radius of circle");
            scanf("%f",&r);
            area=3.14*r*r;
            printf("area of the circle =%f",area);
            break;
        case 2:
            printf("enter the length and breadth:\n");
            scanf("%f %f",&l,&b);
            area=l*b;
            printf("area of the rectangle =%f",area);
            break;
        case 3:
            printf("enter base and height of triangle");
            scanf("%f %f",&base,&height);
            area=0.5*base*height;
            printf("area of the triangle =%f",area);
            break;
        default:
            printf("choose a valid input");
            break;
    }
    return 0;
}

```

10.MENU DRIVEN

```

#include <stdio.h>
int main()
{
    int num,a,b,result;
    printf("enter two numbers\n");

```



```
scanf("%d %d",&a,&b);
printf("enter the number of operation you need to
perform\n1.addition\n2.subtraction\n3.multiplicarion\n4.division\n");
scanf("%d",&num);
switch(num)
{
    case 1 : result=a+b;
    printf("addition of the two numers is %d",result);
    break;
    case 2 : result=a-b;
    printf("subtraction of the two numers is %d",result);
    break;
    case 3 : result=a*b;
    printf("multiplication of the two numers is %d",result);
    break;
    case 4 : result=a/b;
    printf("division of the two numers is %d",result);
    break;
    default : printf("enter a valid number");
    break;
}
return 0;
}
```