

```
//Write a program to check if two integers provided by the user are equal or not.//
```

```
#include<stdio.h>
void main(){
    int a , b;
    printf("Enter the two numbers\n");
    scanf("%d",&a);
    scanf("%d",&b);
    if(a==b)
    printf("The two numbers are equal\n");
    else
    printf("The two numbers are not equal\n");
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 21.c -o 21 } ; if ($?) { .\21 }
Enter the two numbers
2 5
The two numbers are not equal
PS D:\projects\quest\C> █
```

```
//Write a program to determine which of two numbers is greater using relational operators.//
```

```
#include<stdio.h>
void main(){
    int a,b;
    printf("Enter the number\n");
    scanf("%d",&a);
    scanf("%d",&b);
    if(a>b)
    printf("%d is greater than %d\n",a,b);
    else if(a<b)
    printf("%d is greater than %d\n",b,a);
    else
    printf("a is equal to b");
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 22.c -o 22 } ; if ($?) { .\22 }
Enter the number
5 6
6 is greater than 5
PS D:\projects\quest\C> █
```

```
//Use relational operators to check if a given number is positive (greater than 0).//
```

```
#include<stdio.h>

void main() {
    int a;
    scanf("%d",&a);
    if(a>0)
        printf("Its a positive number");
    else
        printf("Its not a positive number");
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 23.c -o 23 } ; if ($?) { .\23 }
5
Its a positive number
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 23.c -o 23 } ; if ($?) { .\23 }
-1
Its not a positive number
PS D:\projects\quest\C> █
```

```
//Write a program to verify if the given length and breadth of a rectangle satisfy the condition of a valid rectangle (length > 0 and breadth > 0).//
```

```
#include<stdio.h>

void main() {
    int length,breadth;
    printf("Enter the length and breadth of rectangle\n");
    scanf("%d",&length);
    scanf("%d",&breadth);
    if(length>0 && breadth>0)
        printf("Its a valid rectangle\n");
    else
        printf("Its not a valid triangle\n");
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 24.c -o 24 } ; if ($?) { .\24 }
Enter the length and breadth of rectangle
20 4
Its a valid rectangle
PS D:\projects\quest\C> █
```

```
//Given a student's marks in a subject, determine if the student has passed (marks >= 40).//
```

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

```

int main() {
    int mark;
    scanf("%d", &mark);
    if(mark >= 40)
        printf("Student passed\n");
    else
        printf("Studednt failed\n");
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 25.c -o 25 } ; if ($?) { .\25 }
52
Student passed
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 25.c -o 25 } ; if ($?) { .\25 }
33
Studednt failed
PS D:\projects\quest\C> 

```

//Use relational operators to check if a given number lies between 10 and 50 (inclusive).//

```

#include<stdio.h>

void main() {
    int num;
    printf("Enter the number\n");
    scanf("%d", &num);
    if(10 <= num && num <= 50)
        printf("The number is within range\n");
    else
        printf("The number is not within range\n");
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeKunner+11e.c -o tempCodeKunner+11e } ; if ($?) { .\tempCodeKunner+11e }
Enter the number
42
The number is within range
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 26.c -o 26 } ; if ($?) { .\26 }
Enter the number
10
The number is within range
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 26.c -o 26 } ; if ($?) { .\26 }
Enter the number
50
The number is within range
PS D:\projects\quest\C> 

```

//Write a program to check if a given character is a lowercase English letter (between 'a' and 'z').//

```

#include<stdio.h>

void main() {

```

```

char letter;
printf("Enter the letter\n");
scanf("%c",&letter);
if(letter >= 'a' && letter <= 'z')
printf("It is a lowercase letter\n");
else
printf("It is not a lowercase letter\n");
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 27.c -o 27 } ; if ($?) { .\27 }
Enter the letter
a
It is a lowercase letter
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 27.c -o 27 } ; if ($?) { .\27 }
Enter the letter
L
It is not a lowercase letter
PS D:\projects\quest\C> 

```

//Compare the ages of two people and determine who is older or if both are of the same age.//

```

#include<stdio.h>
void main(){
    int a,b;
    printf("Enter the ages of a and b\n");
    scanf("%d",&a);
    scanf("%d",&b);
    if(a > b)
    printf("a is older than b\n");
    else if(b>a)
    printf("b is older than a\n");
    else
    printf("Both a ad b are of same age\n");
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 28.c -o 28 } ; if ($?) { .\28 }
Enter the ages of a and b
12 18
b is older than a
PS D:\projects\quest\C> 

```

//Write a program to determine if the weight of an object exceeds the specified maximum limit (e.g., 50 kg)//

```
#include<stdio.h>
void main(){
    int w;
    printf("Enter the weight\n");
    scanf("%d",&w);
    if(w>50)
        printf("Weight exceeds the maximum limit\n");
    else
        printf("Weight does not exceeds the maximum limit\n");
}
```

Enter the weight

33

Weight does not exceeds the maximum limit

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if (\$?) { gcc 29.c -o 29 } ; if (\$?) { .\29 }

Enter the weight

59

Weight exceeds the maximum limit

PS D:\projects\quest\C> █

//Compare the areas of two rectangles given their lengths and breadths and determine which rectangle has a larger area.

```
#include<stdio.h>
void main(){
    int l1,l2,b1,b2,a1,a2;
    printf("Enter the length and breadth of rectangle1\n");
    scanf("%d",&l1);
    scanf("%d",&b1);
    printf("Enter the length and breadth of rectangle2\n");
    scanf("%d",&l2);
    scanf("%d",&b2);
    a1=b1*l1;
    a2=b2*l2;
    if(a1>a2)
        printf("Rectangle1 has the larger area\n");
    else if(a2>a1)
        printf("rectangle2 has larger area\n");
    else
        printf("Both have same area\n");
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 30.c -o 30 } ; if ($?) { .\30 }
Enter the length and breadth of rectangle1
3 4
Enter the length and breadth of rectangle2
5 6
rectangle2 has larger area
PS D:\projects\quest\C> 
```

//Write a program to compute the result of the bitwise AND operation between two integers provided by the user.

```
#include<stdio.h>
void main(){
    int n1,n2;
    printf("Enter the numbers\n");
    scanf("%d %d",&n1,&n2);
    printf("Result is %d",n1&n2);
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 31.c -o 31 } ; if ($?) { .\31 }
Enter the numbers
5 9
Result is 1
PS D:\projects\quest\C> 
```

//Write a program to compute the result of the bitwise OR operation between two integers provided by the user.

```
#include<stdio.h>
void main(){
    int n1,n2;
    printf("Enter the integers\n");
    scanf("%d %d",&n1,&n2);
    printf("Result is %d",n1|n2);
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }
Enter the integers
2 3
Result is 3
PS D:\projects\quest\C> 
```

//Write a program to compute the result of the bitwise XOR operation between two integers provided by the user.

```
#include<stdio.h>

void main(){
    int n1,n2;
    printf("Enter the two integers\n");
    scanf("%d %d",&n1,&n2);
    printf("Result is %d",n1^n2);
}

PS D:\projects\quest\C> cd "d:\projects\quest\C" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }
Enter the two integers
3 4
Result is 7
PS D:\projects\quest\C> 
```

//Write a program to find the bitwise complement of a given integer and print the result.

```
#include<stdio.h>

void main(){
    int n;
    printf("Enter the integer\n");
    scanf("%d",&n);
    printf("Result is %d",~n);
}

PS D:\projects\quest\C> cd "d:\projects\quest\C" ; if ($?) { gcc 34.c -o 34 } ; if ($?) { .\34 }
Enter the integer
7
Result is -8
PS D:\projects\quest\C> 
```

//Given an integer n and a position p, write a program to toggle the bit at position p using the XOR operator.

```
#include<stdio.h>

void main(){
    int n,p;
    printf("Enter the integer and position\n");
    scanf("%d %d",&n,&p);

    printf("Result is %d",n^(1<<p));
}


```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 35.c -o 35 } ; if ($?) { .\35 }
Enter the integer and position
7 0
Result is 6
PS D:\projects\quest\C> 
```

//Write a program to set the bit at a given position p in an integer n to 1 using the OR operator.//

```
#include<stdio.h>
void main(){
    int n,p;
    printf("Enter the integer and position\n");
    scanf("%d %d",&n,&p);

    printf("Result is %d",n|(1<<p));
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 36.c -o 36 } ; if ($?) { .\36 }
Enter the integer and position
6 0
Result is 7
PS D:\projects\quest\C> 
```

//Write a program to clear (set to 0) the bit at a given position p in an integer n using the AND and NOT operators.//

```
#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));
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 37.c -o 37 } ; if ($?) { .\37 }
Enter the integer and position
3 1
Result is 1
PS D:\projects\quest\C> 
```



```
//Write a program to check if a given integer is both a multiple of 5
(arithmetic operator) and greater than 50 (relational operator).//
// Additionally, verify if its binary representation has its least
significant bit set (bitwise AND operation)//
#include<stdio.h>
void main(){
    int n;
    printf("Enter the number\n");
    scanf("%d",&n);
    if(n%5==0 && n>50)
    printf("The integer is a multiple of 5 and greater than 50\n");
    else
    printf("The integer is not a multiple of 5 and greater than 50\n");
    if(n&1)
    printf("Least significant bit is set ");
    else
    printf("Least significant bit is not set");
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 38.c -o 38 } ; if ($?) { .\38 }
Enter the number
55
The integer is a multiple of 5 and greater than 50
Least significant bit is set
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 38.c -o 38 } ; if ($?) { .\38 }
Enter the number
60
The integer is a multiple of 5 and greater than 50
Least significant bit is not set
PS D:\projects\quest\C> █
```

```
/*Given an integer n and a bit position p:
Use bit masking and bitwise XOR to toggle the bit at position p.
After toggling, check if the updated number is positive (arithmetic and
relational operators) and divisible by 2 (logical operators).
```

```
*/
#include<stdio.h>
void main(){
    int n,p,result;
    printf("Enter intger and position\n");
    scanf("%d %d",&n,&p);
    result=n^(1<<p);
    if(result> 0)
    printf("The result is positive\n");
    else if(result < 0)
    printf("The result is negative\n");
}
```

```

    else
    printf("The result is zero\n");
    if(result%2==0)
    printf("The result is divisible by 2\n");
    else
    printf("The result is not divisible by 2\n");
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tem
Enter integer and position
10 3
The result is positive
The result is divisible by 2
PS D:\projects\quest\C> 

```

*/*A person can vote if:
 Their age is greater than or equal to 18 (relational operator).
 They are a registered citizen, represented by a specific bit set in their
 ID number (bit masking and bitwise AND).
 Write a program to verify these conditions using logical operators.*/*

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

```
void main(){
```

```
    int age,id,m;
```

```
    printf("Enter the age and id\n");
```

```
    scanf("%d %d",&age,&id);
```

```
    m=1<<2;
```

```
    if(age>=18 && id&m )
```

```
    printf("Valid to vote\n");
```

```
    else
```

```
    printf("Not valid to vote\n");
```

```
}
```

```
Enter the age and id
```

```
18 7
```

```
Valid to vote
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 40.c -o 40 } ; if ($?) { .\40 }
```

```
Enter the age and id
```

```
13 7
```

```
Not valid to vote
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 40.c -o 40 } ; if ($?) { .\40 }
```

```
Enter the age and id
```

```
52 11
```

```
Not valid to vote
```

```
PS D:\projects\quest\C>
```

*/*Write a program to:*

Use bit masking and bitwise OR to set a specific bit in a number.

Use bitwise AND and NOT to clear another specific bit.
Check if the resulting number is odd (arithmetic and relational operators)
and lies within a range (logical operators).*/

```
#include<stdio.h>
void main(){
    int n,p,m,result;
    printf("Enter the integer and position\n");
    scanf("%d %d",&n,&p);
    m=(1<<p);
    n=n|m;
    printf("Enter the second position\n");
    scanf("%d",&p);
    m=~(1<<p);
    result=n&m;
    if(result%2==0)
    printf("The result is even\n");
    else
    printf("The result is odd\n");
    if(result>=10 && result<=50)
    printf("The result is within range\n");
    else
    printf("The result is not within range\n");
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C" ; if ($?) { gcc 41.c -o 41 } ; if ($?) { .\41 }
Enter the integer and position
9 2
Enter the second position
3
The result is odd
The result is not within range
PS D:\projects\quest\C> 
```

/*Number Properties Validation:

Given two integers a and b, perform the following:

Compute their sum and product (arithmetic operators).

Verify if the sum is greater than 100 and the product is divisible by 4
(relational and logical operators).

Check if the binary representation of a has its second bit set (bitwise
AND with a mask).

```

*/
#include<stdio.h>
void main(){
    int a,b,s,p,m;
    printf("Enter the two integers\n");
    scanf("%d %d",&a,&b);
    s=a+b;
    p=a*b;
    if(a>100)
        printf("Sum is greater than 100\n");
    else
        printf("sum is lesser than 100\n");
    if(p%4==0)
        printf("The product is divisible by 4\n");
    else
        printf("The product is not divisible by 4\n");
    m=1<<1;
    if (a&m)
        printf("Second bit is set\n");
    else
        printf("Second bit is not set\n");
}

PS D:\projects\quest\C> cd "d:\projects\quest\C" ; if ($?) { gcc 42.c -o 42 } ; if ($?) { .\42 }
Enter the two integers
20 20
sum is lesser than 100
The product is divisible by 4
Second bit is not set
PS D:\projects\quest\C> 

```

*/*Write a program to check if a number entered by the user is positive using an if statement.*/*

```

#include<stdio.h>
void main(){
    int n;
    printf("Enter the number\n");
    scanf("%d",&n);
    if(n>0)
        printf("The number is positive\n");
}

```

```

}

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFi
Enter the number
8
The number is positive
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFi
Enter the number
-2
PS D:\projects\quest\C> 

```

```

/*Write a program to check if a number is divisible by 3 using an if
statement.*/

```

```

#include<stdio.h>
void main()
{
    int n;
    printf("Enter the number\n");
    scanf("%d",&n);
    if(n%3==0)
    printf("The number is divisible by 3\n");
    else
    printf("The number is not divisible by 3\n");
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 44.c -o 44 } ; if ($?) { .\44 }
Enter the number
9
The number is divisible by 3
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 44.c -o 44 } ; if ($?) { .\44 }
Enter the number
7
The number is not divisible by 3
PS D:\projects\quest\C> 

```

```

/*Write a program to determine if a number is odd or even using an if-else
statement.*/

```

```

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

```

```

}

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) {
Enter the number
5
The number is odd
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 45.c -o 45 } ; if ($?) { .\45 }
Enter the number
4
The number is even
PS D:\projects\quest\C> 

```

*/*Write a program to check if a student has passed an exam based on their marks (pass marks are 40).*

If the marks are below 40, display "Fail."/*

```

#include<stdio.h>

void main(){
    int mark;
    printf("Enter the marks\n");
    scanf("%d",&mark);
    if(mark>=40)
        printf("Pass\n");
    else
        printf("Fail\n");
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ;
Enter the marks
55
Pass
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ;
Enter the marks
28
Fail
PS D:\projects\quest\C> 

```

*/*Given the lengths of three sides, write a program to determine if the triangle is valid using nested if-else.*

If valid, check if it is an equilateral triangle.

```

*/

#include<stdio.h>

void main(){
    int a,b,c;
    printf("Enter the sides\n");
    scanf("%d %d %d",&a,&b,&c);
    if((a+b)>c)

```

```

{
    if((b+c)>a)
    {
        if((c+a)>b)
        {
            printf("It is a valid triangle\n");
            if(a==b && b==c)
                printf("Its an equilateral triangle\n");
        }
        else
            printf("Its not a valid triangle\n");
    }
    else
        printf("Its not a valid triangle\n");
}
else
    printf("Its not a valid triangle\n");
}

```

Enter the sides

2 4 9

Its not a valid triangle

PS D:\projects\quest\C> cd "d:\projects\quest\C" ; if (\$?) { gcc 47.c -o 47 } ; if (\$?) { .\47 }

Enter the sides

3 4 5

It is a valid triangle

PS D:\projects\quest\C> cd "d:\projects\quest\C" ; if (\$?) { gcc 47.c -o 47 } ; if (\$?) { .\47 }

Enter the sides

3 3 3

It is a valid triangle

Its an equilateral triangle

*/*Write a program to check if a student is eligible for admission based on the following criteria:*

Marks in mathematics >= 50

Marks in physics >= 50

Total marks (math + physics) >= 120

Use nested if-else statements.

**/*

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

```
void main(){
```

```
    int m,p;
```

```
    printf("Enter marks for maths and physics\n");
```

```
    scanf("%d %d",&m,&p);
```

```
    if(m>=50)
```

```
{
```

```

        if(p>=50)
        {
            if((p+m)>=120)
                printf("Student is eligible\n");
            else
                printf("Student not eligible\n");
        }
    else
        printf("Student not eligible\n");
}

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 48.c -o 48 } ; if ($?) { .\48 }
Enter marks for maths and physics
50 50
Student not eligible
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 48.c -o 48 } ; if ($?) { .\48 }
Enter marks for maths and physics
70 50
Student is eligible
PS D:\projects\quest\C> █

```

*/*Write a program to calculate and print the grade of a student based on their percentage using an if-else-if ladder:*

= 90: Grade A

= 75: Grade B

= 50: Grade C

< 50: Fail/*

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

```
void main(){
```

```
    int mark;
```

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

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

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

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

```
    else if(mark>=75)
```

```
        printf("Grade is B\n");
```

```
    else if(mark>=50)
```

```
        printf("Grade is C\n");
```

```
    else
```

```
        printf("Fail\n");
```



```

}

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 49.c -o 49 } ; if ($?) { .\49 }
Enter the mark
80
Grade is B
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 49.c -o 49 } ; if ($?) { .\49 }
Enter the mark
98
Grade is A
PS D:\projects\quest\C> █

```

*/*Write a program to classify an integer as positive, negative, or zero using an if-else-if ladder.*/*

```

#include<stdio.h>
void main(){
    int a;
    printf("Enter the integer\n");
    scanf("%d",&a);
    if(a>0)
        printf("Its a positive integer\n");
    else if(a<0)
        printf("Its a negative integer\n");
    else
        printf("Its zero\n");
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 50.c -o 50 } ; if ($?) { .\50 }
Enter the integer
9
Its a positive integer
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 50.c -o 50 } ; if ($?) { .\50 }
Enter the integer
-6
Its a negative integer
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 50.c -o 50 } ; if ($?) { .\50 }
Enter the integer
0
Its zero
PS D:\projects\quest\C> █

```

*/*Write a program to calculate the electricity bill based on the number of units consumed using the following criteria:*

Units <= 100: ₹5 per unit

Units > 100 and <= 200: ₹7 per unit

Units > 200: ₹10 per unit

Use an if-else-if ladder to implement this./*

```

#include<stdio.h>

```

```

void main(){
    int unit;

```

```

printf("Enter the units consumed\n");
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);
}
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 51.c -o 51 } ; if ($?) { .\51 }
Enter the units consumed
50
charge is 250
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 51.c -o 51 } ; if ($?) { .\51 }
Enter the units consumed
160
charge is 1120
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 51.c -o 51 } ; if ($?) { .\51 }
Enter the units consumed
210
charge is 2100
PS D:\projects\quest\C> █

```

*/*Write a program to print the name of the day of the week based on a number entered by the user
(1 for Monday, 2 for Tuesday, ..., 7 for Sunday) using an if-else-if ladder.*/*

```

#include<stdio.h>
void main()
{
    int day;
    printf("Enter the number between 1 and 7\n");
    scanf("%d",&day);
    if(day==1)
    printf("MONDAY\n");
    else if(day==2)
    printf("TUESDAY\n");
    else if(day==3)
    printf("WEDNESDAY\n");
    else if(day==4)
    printf("THURSDAY\n");
    else if(day==5)
    printf("FRIDAY\n");
    else if(day==6)

```

```

printf("SATURDAY\n");
else if(day==7)
printf("SUNDAY\n");
else
printf("Enter a valid input\n");
}

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 52.c -o 52 } ; if ($?) { .\52 }
Enter the number between 1 and 7
5
FRIDAY
PS D:\projects\quest\C> █

```

*/*Write a program that takes an integer (1-7) as input and uses a switch-case to print the corresponding day of the week (e.g., 1 for Monday, 2 for Tuesday, etc.).*/*

```

#include<stdio.h>
void main(){
    int n;
    printf("Enter the number between 1 and 7\n");
    scanf("%d",&n);
    switch(n){
        case 1: printf("MONDAY\n");
        break;
        case 2: printf("TUESDAY\n");
        break;
        case 3: printf("WEDNESDAY\n");
        break;
        case 4: printf("THURSDAY\n");
        break;
        case 5: printf("FRIDAY\n");
        break;
        case 6: printf("SATURDAY\n");
        break;
        case 7: printf("SUNDAY\n");
        break;
        default:printf("Enter a valid input\n");
        break;
    }
}

```

```
}  
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 53.c -o 53 } ; if ($?) { .\53 }  
Enter the number between 1 and 7  
4  
THURSDAY  
PS D:\projects\quest\C> █
```

```
/*Write a program to perform basic arithmetic operations (addition,  
subtraction, multiplication,  
division) based on the operator input (+, -, *, /) using a switch-case  
statement.*/
```

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

```
void main(){
```

```
    int a,b;
```

```
    char c;
```

```
    printf("Enter the numbers\n");
```

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

```
    while ((getchar()) != '\n');
```

```
    printf("Enter the operation\n");
```

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

```
    switch(c){
```

```
        case '+':printf("Sum of %d and %d is %d",a,b,a+b);
```

```
        break;
```

```
        case '-':printf("Difference of %d and %d is %d",a,b,a-b);
```

```
        break;
```

```
        case '*':printf("Product of %d and %d is %d",a,b,a*b);
```

```
        break;
```

```
        case '/':printf("Quotient of %d and %d is %d",a,b,a/b);
```

```
        break;
```

```
        default : printf("Enter a valid operator\n");
```

```
    }
```

```
}
```

```
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 54.c -o 54 } ; if ($?) { .\54 }
Enter the numbers
12 6
Enter the operation
/
Quotient of 12 and 6 is 2
PS D:\projects\quest\C> █
```

*/*Write a program that takes a single character as input and uses a switch-case to determine if it is a vowel or a consonant.*/*

```
#include<stdio.h>
void main() {
    char c;
    printf("Enter the character\n");
    scanf("%c",&c);
    switch(c) {
        case 'a':printf("It is a vawal\n");
        break;
        case 'e':printf("It is a vawal\n");
        break;
        case 'i':printf("It is a vawal\n");
        break;
        case 'o':printf("It is a vawal\n");
        break;
        case 'u':printf("It is a vawal\n");
        break;
        case 'A':printf("It is a vawal\n");
        break;
        case 'E':printf("It is a vawal\n");
        break;
        case 'I':printf("It is a vawal\n");
        break;
        case 'O':printf("It is a vawal\n");
        break;
        case 'U':printf("It is a vawal\n");
        break;
        default : printf("Its a consonent\n");
        break;
    }
}
```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 55.c -o 55 } ; if ($?) { .\55 }
Enter the character
a
It is a vowel
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 55.c -o 55 } ; if ($?) { .\55 }
Enter the character
U
It is a vowel
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 55.c -o 55 } ; if ($?) { .\55 }
Enter the character
n
Its a consonent
PS D:\projects\quest\C> █

```

Ln 16, Col 44 Spaces

```

/*Write a program to convert a single-digit number (0-9)
into its word representation (e.g., 1 to "One", 2 to "Two") using a
switch-case statement
*/
#include<stdio.h>
void main()
{
    int n;
    printf("Enter a number between 0 and 9\n");
    scanf("%d",&n);
    switch (n)
    {
        case 1:printf("ONE\n");
        break;
        case 2:printf("TWO\n");
        break;
        case 3:printf("THREE\n");
        break;
        case 4:printf("FOUR\n");
        break;
        case 5:printf("FIVE\n");
        break;
        case 6:printf("SIX\n");
        break;
        case 7:printf("SEVEN\n");
        break;
        case 8:printf("EIGHT\n");
        break;
        case 9:printf("NINE\n");
        break;
        case 0:printf("ZERO\n");
    }
}

```

```

        break;
    default:printf("Enter a valid input\n");
            break;
    }
}

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 56.c -o 56 } ; if ($?) { .\56 }
Enter a number between 0 and 9
7
SEVEN
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 56.c -o 56 } ; if ($?) { .\56 }
Enter a number between 0 and 9
0
ZERO
PS D:\projects\quest\C> █

```

*/*Write a program that takes an integer (1-12) as input and uses a switch-case to print the name of the corresponding month (e.g., 1 for January, 2 for February, etc.).*/*

```

#include<stdio.h>
void main()
{
    int n;
    printf("Enter a number between 1 and 12\n");
    scanf("%d",&n);
    switch(n)
    {
        case 1:printf("JANUARY\n");
                break;
        case 2:printf("FEBRUARY\n");
                break;
        case 3:printf("MARCH\n");
                break;
        case 4:printf("APRIL\n");
                break;
        case 5:printf("MAY\n");
                break;
        case 6:printf("JUNE\n");
                break;
        case 7:printf("JULY\n");
                break;
    }
}

```

```

        case 8:printf("AUGUST\n");
        break;
        case 9:printf("SEPTEMBER\n");
        break;
        case 10:printf("OCTOBER\n");
        break;
        case 11:printf("NOVEMBER\n");
        break;
        case 12:printf("DECEMBER\n");
        break;
        default:printf("Enter a valid input\n");
        break;
    }
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 57.c -o 57 } ; if ($?) { .\57 }
Enter a number between 1 and 12
6
JUNE
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 57.c -o 57 } ; if ($?) { .\57 }
Enter a number between 1 and 12
13
Enter a valid input
PS D:\projects\quest\C> █

```

*/*Write a program that takes a grade (A, B, C, D, F) as input and uses a switch-case to print the description of the grade (e.g., A: "Excellent", B: "Good", etc.).*/*

```

#include<stdio.h>

void main(){
    char grade;
    printf("Enter the grade\n");
    scanf("%c",&grade);
    switch(grade){
        case 'A':printf("EXCELLENT\n");
        break;
        case 'B':printf("GOOD\n");
        break;
        case 'C':printf("MEDIOCRE\n");
        break;
        case 'D':printf("PASS\n");
        break;
    }
}

```



```

        case 'F':printf("FAIL\n");
        break;
        default:printf("Enter valid input\n");
        break;

    }
}

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 58.c -o 58 } ; if ($?) { .\58 }
Enter the grade
C
MEDIOCRE
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc 58.c -o 58 } ; if ($?) { .\58 }
Enter the grade
B
GOOD
PS D:\projects\quest\C> █

```

*/*Write a menu-driven program that offers the user options for basic mathematical operations (addition, subtraction, etc.). Based on the user's choice, perform the corresponding operation using a switch-case.*/*

```

#include<stdio.h>
void main(){
    int a,b,c;
    printf("MENU\n");
    printf("1.ADDITION\n");
    printf("2.SUBTRACTION\n");
    printf("3.DIVISION\n");
    printf("4.MULTIPLICATION\n");
    printf("Enter option\n");
    scanf("%d",&c);
    switch(c){
        case 1:printf("ADDITION\n");
        printf("Enter the numbers\n");
        scanf("%d %d",&a,&b);
        printf("Sum of %d and %d is %d ",a,b,a+b);
        break;
        case 2:printf("SUBTRACTION\n");
        printf("Enter the numbers\n");
        scanf("%d %d",&a,&b);
        printf("Difference between %d and %d is %d ",a,b,a-b);
    }
}

```

```

        break;
    case 3:printf("MULTIPLICATION\n");
    printf("Enter the numbers\n");
    scanf("%d %d",&a,&b);
    printf("Product of %d and %d is %d ",a,b,a*b);
    break;
    case 4:printf("DIVISION\n");
    printf("Enter the numbers\n");
    scanf("%d %d",&a,&b);
    printf("Quotient of %d by %d is %d ",a,b,a/b);
    break;
    default:printf("Enter a valid option\n");
}
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C" ; if ($?) { gcc 59.c -o 59 } ; if ($?) { .\59 }
MENU
1.ADDITION
2.SUBTRACTION
3.MULTIPLICATION
4.DIVISION
Enter option
3
MULTIPLICATION
Enter the numbers
4 5
Product of 4 and 5 is 20
PS D:\projects\quest\C>

```

Ln 9.

*/*Write a program to simulate a traffic light system. Take input as R, Y, or G (Red, Yellow, Green) and use a switch-case to display the corresponding action (e.g., R for Stop, Y for Get Ready, G for Go).*/*

```

#include<stdio.h>
void main(){
    char signal;
    printf("Enter the input R,Y or G\n");
    scanf("%c",&signal);
    switch (signal)
    {
    case 'R':
        printf("STOP\n");
        break;
    case 'Y':
        printf("READY\n");
        break;
    }
}

```

```

        case 'G':
            printf("GO\n");
            break;

        default:
            break;
    }
}

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }
Enter the input R,Y or G
R
STOP
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }
Enter the input R,Y or G
Y
READY
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }
Enter the input R,Y or G
G
GO
PS D:\projects\quest\C> █

```

```

/*
Write a program that takes the year as input and uses a switch-case to
check and
print whether it is a leap year or not (use logical division by 4 and
additional logic in cases).*/
#include <stdio.h>

int main() {
    int year;
    printf("Enter a year\n");
    scanf("%d", &year);
    switch (year % 4 == 0) {
        case 0:
            printf("%d is not a leap year.\n", year);
            break;
        case 1:
            switch (year % 100 == 0) {
                case 0:
                    printf("%d is a leap year.\n", year);
                    break;
                case 1:
                    switch (year % 400 == 0) {
                        case 0:
                            printf("%d is not a leap year.\n", year);
                            break;
                        case 1:

```

```

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

Enter a year
2012
2012 is a leap year.
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?)
Enter a year
3000
3000 is not a leap year.
PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?)
Enter a year
1996
1996 is a leap year.
PS D:\projects\quest\C> █

```

Ln 1, Col 1 (961 selected) — 5

*/*Write a program to calculate the area of different shapes based on user input:*

*1 for Circle
2 for Rectangle
3 for Triangle*

Use a switch-case to perform the respective area calculations.

**/*

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

```
void main(){
```

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

```
    printf("MENU\n");
```

```
    printf("1.CIRCLE\n");
```

```
    printf("2.RECTANGLE\n");
```

```
    printf("3.TRIANGLE\n");
```

```
    printf("Enter an option\n");
```

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

```
    switch(c){
```

```
        case 1:printf("Enter the radius\n");
```

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

```
        printf("Area of circle is %d",(22*a*a)/7);
```

```
        break;
```

```
        case 2:printf("Enter the length and breadth\n");
```

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

```

        printf("Area of rectangle is %d",a*b);
        break;
    case 3:printf("Enter the length and breadth\n");
    scanf("%d %d",&a,&b);
    printf("Area of triangle is %d",(a*b)/2);
    break;
    default:printf("Enter a valid input\n");
    break;
}
}

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile.exe }
MENU

```

```

1.CIRCLE
2.RECTANGLE
3.TRIANGLE
Enter an option

```

```

1
Enter the radius
7
Area of circle is 154

```

```

PS D:\projects\quest\C> cd "d:\projects\quest\C\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile.exe }
MENU

```

```

1.CIRCLE
2.RECTANGLE
3.TRIANGLE
Enter an option
2
Enter the length and breadth

```

```

4 5
Area of rectangle is 20

```

```

PS D:\projects\quest\C>

```