Day-3 Programs

---

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

```
#include <stdio.h>

int main()
{
   int num1;
   printf("Enter the first number:");
   scanf("%d",&num1);

   int num2;
   printf("Enter the second number:");
   scanf("%d",&num2);

   if(num1==num2){
      printf("Both are Equal");
   }
   else
   {
      printf("Both are not Equal");
   }

   return 0;
}
```

Output

Enter the first number:2

Enter the second number:2

Both are Equal

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

```
#include <stdio.h>

int main()
{
   int num1;
   printf("Enter the first number:");
   scanf("%d",&num1);

   int num2;
   printf("Enter the second number:");
   scanf("%d",&num2);

   if(num1>num2){
      printf("Num1 is greater");
   }
   else
   {
      printf("Num2 is greater");
   }

   return 0;
```

```
}
```

Output

Enter the first number:5

Enter the second number:6

Num2 is greater

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

```
#include <stdio.h>

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

   if(num>0){
      printf("The number is positive");
   }
   else
   {
      printf("The number can be 0 or negative");
   }

   return 0;
}
```

Output

Enter the number:7

The number is positive

4. 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>

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

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

   if(length>0 && breadth>0){
      printf("Valid Rectangle");
   }
   else
   {
      printf("Not Valid");
   }

   return 0;
```

```
}
```

Output

```
--------
Enter the length:0
Enter the breadth:3
Not Valid
```

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

```
#include <stdio.h>

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

   if(marks>=40 && marks<=100){
      printf("Student Passed");
   }
   else
   {
      printf("Student Failed");
   }

   return 0;
}
```

Output

Enter the Marks:39

Student Failed

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

```
#include <stdio.h>

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

   if(num>=10 && num<=50){
      printf("Within the range");
   }
   else
   {
      printf("Not within the range");
   }

   return 0;
}
```

Output

Enter the number:23

Within the range

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

```
#include <stdio.h>


int main()
{
   char letter;
   printf("Enter the letter:");
   scanf("%c",&letter);


   if(letter>='a' && letter<='z'){
      printf("Within the range");
   }
   else{
      printf("Not within the range");
   }



   return 0;
}
```

Output

```
Enter the letter:b
Within the range
```

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

```
#include <stdio.h>

int main()
{
   int age1;
   printf("Enter the age1:");
   scanf("%d",&age1);

   int age2;
   printf("Enter the age2:");
   scanf("%d",&age2);

   if(age1>age2){
      printf("Person1 is older");
   }
   else if(age1<age2){
      printf("Person 2 is older");

   }
   else{
      printf("Both are of same age");
   }

   return 0;
}
```

Output

Enter the age1:22

Enter the age2:22

Both are of same age

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

```
#include <stdio.h>

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

   if(weight>50){
      printf("The weight exceeds");
   }
   else{
      printf("The weight not exceeds");
   }

   return 0;
}
```

Output

Enter the weight:51

The weight exceeds

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

```
#include <stdio.h>

int main()
{
   int length1=5;
   int breadth1=2;

   int length2=10;
   int breadth2=5;

   int area1=length1*breadth1;
   int area2=length2*breadth2;

   printf("Area1=%d\n",area1);
   printf("Area2=%d\n",area2);

   if(area1>area2){
      printf("Area1 is larger");

   }
   else{
      printf("Area2 is larger");
   }
```

```
    return 0;
}
```

Output

Area1=10

Area2=50

Area2 is larger

Bitwise Operators

---

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

```
#include <stdio.h>

int main()
{
    int num1;
    printf("Enter the first number:");
    scanf("%d",&num1);

    int num2;
    printf("Enter the second number:");
    scanf("%d",&num2);

    int result=num1&num2;
    printf("Result=%d\n",result);
```

```
    return 0;
}
```

Ouput

Enter the first number:30

Enter the second number:31

Result=30

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

```
#include <stdio.h>

int main()
{
    int num1;
    printf("Enter the first number:");
    scanf("%d",&num1);

    int num2;
    printf("Enter the second number:");
    scanf("%d",&num2);

    int result=num1|num2;
    printf("Result=%d\n",result);
    return 0;
}
```

Output

Enter the first number:30

Enter the second number:31

Result=31

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

```
#include <stdio.h>

int main()
{
   int num1;
   printf("Enter the first number:");
   scanf("%d",&num1);

   int num2;
   printf("Enter the second number:");
   scanf("%d",&num2);

   int result=num1^num2;
   printf("Result=%d\n",result);
   return 0;
}
```

Output

Enter the first number:30

Enter the second number:31

Result=1

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

```
#include <stdio.h>

int main()
{
   int num1;
   printf("Enter the first number:");
   scanf("%d",&num1);

   int result=~num1;
   printf("Result=%d\n",result);
   return 0;
}
```

Output

Enter the first number:30

Result=-31

15. 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>

int main()
{
   int num,position;
```

```
    printf("Enter the number:");
    scanf("%d",&num);

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

    int result=num^(1<<position);
    printf("Result=%d\n",result);
    return 0;
}
```

Output

Enter the number:10

Enter the position:1

Result=8

16. 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>

int main()
{
    int num,position;
    printf("Enter the number:");
```

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

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


    int result=num|(1<<position);
    printf("Result=%d\n",result);

    return 0;
}
```

Output

Enter the number:10

Enter the position:2

Result=14

17. 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>

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

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


    int result=num&(~(0<<position));
    printf("Result=%d\n",result);

    return 0;
}
```

Output

```
Enter the number:11
Enter the position:1
Result=11
```

Combined Programs

---

18. 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>

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

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

    if(num%5==0 && num>50){
        printf("Both conditions Satisfied\n");
    }
    else{
        printf("Not Satisfied\n");
    }
    int result=num&(1<<position);
    printf("Result=%d\n",result);

    return 0;
}
```

Output

Enter the number:13

Enter the position:2

Not Satisfied

Result=4

19. 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>

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

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

   int result=num^(1<<position);
   printf("Result=%d\n",result);

   if(result>=0 && result%2==0){
      printf("Both conditions satisfied");
   }
   else{
      printf("Not Satisfied");
   }

   return 0;
}
```

Output

```
-------

Enter the number:-3
```

Enter the position:0

Result=-4

Not Satisfied

20. 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>


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


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


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


   if(age>=18 && id!=0){
      printf("Person can vote\n");
   }
```

```
    else{
        printf("Not Eligible\n");
    }
    int result=id&(1<<position);
    printf("Result=%d\n",result);

    return 0;
}
```

Output

Enter the age:54

Enter the id:60

Enter the position:2

Person can vote

Result=4

21. 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>

int main()
{
    int num;
    printf("Enter the num:");
```

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

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

    int result=num|(1<<position);
    printf("Result=%d\n",result);

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

    int result1=result&(~(1<<position1));
    printf("Result1=%d\n",result1);

    if(result1%2!=0 && result1>0 && result1<500){
        printf("Condition Satisfied");
    }
    else{
        printf("Not Satisfied");
    }



    return 0;
}
```

Output

Enter the num:5

Enter the position:1

Result=7

Enter the position1:2

Result1=3

Condition Satisfied

22. 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>

int main()
{
   int a;
   printf("Enter a value:");
   scanf("%d",&a);

   int b;
   printf("Enter b value:");
   scanf("%d",&b);

   int position;
```

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


    int sum=a+b;
    int product=a*b;

    printf("Sum=%d\n",sum);
    printf("Product=%d\n",product);

    if(sum>100 && product%4==0){
        printf("Both conditions satisfied\n");
    }
    else{
        printf("Not Satisfied\n");
    }
    int result=a&(1<<position);
    printf("Result=%d\n",result);


    return 0;
}
```

Output

Enter a value:200

Enter b value:200

Enter the position:2

Sum=400

Product=40000

Both conditions satisfied

Result=0

if statements

---

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

```
#include <stdio.h>

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

   if(num>=0){
      printf("The number is positive");
   }

   return 0;
}
```

Output

```
Enter the number:2
The number is positive
```

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

```
#include <stdio.h>

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

   if(num%3==0){
      printf("The number is divisible by 3");
   }



   return 0;
}
```

Output

Enter the number:9

The number is divisible by 3

if-else statement

---

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

```
#include <stdio.h>

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

   if(num%2==0){
      printf("The number is even");
   }
   else{
       printf("The number is odd");
   }

   return 0;
}
```

Output

Enter the number:5

The number is odd

4. 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>

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

   if(marks>=40){
      printf("Pass");
   }
   else{
       printf("Fail");
   }



   return 0;
}
```

Output

Enter the marks:39

Fail

Nested-if-else statement

---

5. 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>


int main()
{
   int s1=2;
   int s2=3;
   int s3=4;


   if(s1+s2>s3 && s2+s3>s1 && s1+s3>s2){
      printf("The triangle is valid\n");
      if(s1==s2 && s2==s3){
         printf("Equilateral Triangle\n");
      }
      else{
         printf("Not an Equilateral triangle\n");
      }
   }
   else{
      printf("Not valid triangle\n");
   }



   return 0;
}
```

Output

The triangle is valid

Not an Equilateral triangle

6. 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>

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

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

   if(mathmarks>=50){
      if(phymarks>=50){
         if((mathmarks+phymarks)>=120){
```

```
            printf("Eligible for admission");
        }
        else{
            printf("Not Eligible");
        }
    }
    else{
        printf("Not Eligible phy marks are less");
    }
    else{
        printf("Not Eligible maths marks are less");
    }

  }


  return 0;
}
```

Output

Enter mathmarks=50

Enter phymarks=50

Not Eligible

if-else-if ladder

---

7. 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>

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

   if(percentage>=90){
      printf("Grade A");
   }
   else if(percentage>=75 && percentage<90){
       printf("Grade B");
   }
   else if(percentage>=50 && percentage<75){
       printf("Grade C");
   }
   else{
      printf("Fail");
   }
```

```
    return 0;
}
```

Output

Enter the percentage:49

Fail

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

```
#include <stdio.h>

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

    if(num>0){
        printf("Positive Number");
    }
    else if(num<0){
         printf("Negative Number");
    }
    else{
        printf("Zero");
    }
```

```
    return 0;
}
```

Output

Enter the number:-1

Negative Number

9. 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>

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

    if(unit>200){
        int bill1=unit*10;
        printf("Bill=%d\n",bill1);
    }
    else if(unit>100 && unit<=200){
         int bill2=unit*7;
```

```
        printf("Bill=%d\n",bill2);
    }
    else{
        int bill3=unit*5;
        printf("Bill=%d\n",bill3);
    }
    return 0;
}
```

Output

Enter the unit:100

Bill=500

10. 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>

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

    if(num==7){
        printf("Sunday");
    }
    else if(num==6){
```

```
        printf("Saturday");
    }
    else if(num==5){
        printf("Friday");
    }
    else if(num==4){
        printf("Thursday");
    }
    else if(num==3){
        printf("Wednesday");
    }
    else if(num==2){
        printf("Tuesday");
    }
    else if(num==1){
        printf("Monday");
    }
    else{
        printf("Invalid Input");
    }

    return 0;
}
```

Output

Enter the number:7

Sunday

Switch Statment

---

1. 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>


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


   switch(num){
      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");
        break;
    }

    return 0;
}
```

Output

Enter the number:7

Sunday

2. 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>

int main()
{
```

```
char operator;
printf("Enter the operator:");
scanf("%c",&operator);


float num1;
printf("Enter the number1:");
scanf("%f",&num1);

float num2;
printf("Enter the number2:");
scanf("%f",&num2);

float result;

switch(operator){
   case '+':
        result=num1+num2;
        printf("Sum of %f and %f is:%f\n",num1,num2,result);
   break;
   case '-':
      result=num1-num2;
      printf("Difference of %f and %f is:%f\n",num1,num2,result);
   break;
   case '*':
      result=num1*num2;
      printf("Product of %f and %f is:%f\n",num1,num2,result);
   break;
```

```
        case '/':
            result=num1/num2;
            printf("Division of %f and %f is:%f\n",num1,num2,result);
        break;
        default:
            printf("Invalid Operator");
        break;
    }

    return 0;
}
```

Output

```
Enter the operator:+
Enter the number1:5
Enter the number2:5
Sum of 5.00 and 5.00 is 10.00
```

3. 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>

int main()
{
    char val;
    printf("Enter the val:");
    scanf("%c",&val);
```

```
    switch(val){
      case 'a':
       case 'e':
       case 'i':
       case 'o':
       case 'u':
       case 'A':
       case 'E':
       case 'I':
       case 'O':
       case 'U':
            printf("vowel\n");
       break;
       default:
          printf("Consonant");
       break;
    }

    return 0;
}
```

Output

Enter the val=b

Consonant

4. 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>


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


   switch(num){


      case 0:
         printf("Zero");
      break;
      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;

        default:
            printf("Invalid Input");
        break;
    }

    return 0;
}
```

Output

Enter the num:9

Nine

5. 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>


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


   switch(num){


      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("Invalid Input");
        break;
    }

    return 0;
}
```

Output

Enter the num:7

July

6. 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>

int main()
{
   char ch;
   printf("Enter the char:");
   scanf("%c",&ch);

   switch(ch){

      case 'A':
         printf("Excellent");
      break;
      case 'B':
         printf("Very Good");
      break;
      case 'C':
         printf("Good");
      break;
      case 'D':
```

```
        printf(" Above Average");
      break;
      case 'E':
        printf("Average");
      break;
      case 'F':
        printf("Below Average");
      break;
      default:
        printf("Invalid Input");
      break;
   }

   return 0;
}
```

Output

Enter the char:F

Below Average

7. 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>

int main()
{
   int choice;
```

```
printf("The operation are:\n");
printf("1.Addition\n");
printf("2.Substraction\n");
printf("3.Multiplication\n");
printf("4.Division\n");
printf("Enter your choice:\n");
scanf("%d",&choice);



float num1;
printf("Enter the number1:");
scanf("%f",&num1);

float num2;
printf("Enter the number2:");
scanf("%f",&num2);

float result;

switch(choice){
   case 1:
        result=num1+num2;
        printf("Sum of %f and %f is:%f\n",num1,num2,result);
   break;
   case 2:
      result=num1-num2;
      printf("Difference of %f and %f is:%f\n",num1,num2,result);
   break;
```

```
        case 3:
            result=num1*num2;
            printf("Product of %f and %f is:%f\n",num1,num2,result);
        break;
        case 4:
            result=num1/num2;
            printf("Division of %f and %f is:%f\n",num1,num2,result);
        break;
        default:
            printf("Invalid Operator");
        break;
    }

    return 0;
}
```

Output

The Operations are:

1. Addition
2. Substarction
3. Multiplication
4. Division

Enter your choice:

1

Enter number1:5

Enter number2:4

Sum of 5.00 and 4.00 is:9.00

8. 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>


int main()
{
   char ch;
   printf("Enter the char:");
   scanf("%c",&ch);


   switch(ch){


      case 'R':
         printf("Stop");
      break;
      case 'Y':
         printf("Get Ready");
      break;
      case 'G':
         printf("Go");
      break;
      default:
         printf("Invalid Input");
      break;
   }


   return 0;
```

```
}
```

Output

Enter the char:R

Stop

9. 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 the year:");
   scanf("%d",&year);

   switch ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {
      case 1:
         printf("%d is a leap year.\n", year);
         break;
      default:
         printf("%d is not a leap year.\n", year);
   }

   return 0;
}
```

Output

Enter the year:2024

2024 is a leap year

10. 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>

int main() {
   int choice;
   double area;
   printf("Choose a shape:\n");
   printf("1. Circle\n");
   printf("2. Rectangle\n");
   printf("3. Triangle\n");
   printf("Enter your choice");
   scanf("%d", &choice);

   switch (choice) {
      case 1: {
         double radius;
         printf("Enter the radius of the circle: ");
```

```
            scanf("%lf", &radius);
            area = 3.14* radius * radius;
            printf("The area of the circle is: %lf\n", area);
            break;
        }
        case 2: {
            double length, width;
            printf("Enter the length and width of the rectangle: ");
            scanf("%lf %lf", &length, &width);
            area = length * width;
            printf("The area of the rectangle is: %lf\n", area);
            break;
        }
        case 3: {
            double base, height;
            printf("Enter the base and height of the triangle: ");
            scanf("%lf %lf", &base, &height);
            area = 0.5 * base * height;
            printf("The area of the triangle is: %lf\n", area);
            break;
        }
        default:
            printf("Invalid choice\n");
    }
    return 0;
}
```

Output

Choose a shape:

1. Circle

2. Rectangle

3.Triangle

Enter your choice 1

Enter the radius of the circle:1

The area of the circle is:3.1400