

```
/*
```

AIM: Write a C program to convert specified days into years, weeks and days. Write an algorithm & draw a flowchart for the same.

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DIV: A

DEPT.: AI&DS

ROLL-NO: 58

```
*/
```

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

```
int main() {
```

```
int days, years, weeks, remaining_days;
```

```
printf("Enter the number of days:");
```

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

```
years = days / 365;
```

```
remaining_days = days % 365;
```

```
weeks = remaining_days / 7;
```

```
remaining_days = remaining_days % 7;
```

```
printf("Years: %d\n", years);
```

```
printf("Weeks: %d\n", weeks);
```

```
printf("Days: %d\n", remaining_days);
```

```
return 0;
```

```
}
```

```
/* OUTPUT:
```

```
Enter the number of days:1329
```

```
Years: 3
```

Weeks: 33

Days: 3

*/

/*

AIM: Write a C program to calculate salary of an employee with name.

Write an algorithm & draw a flowchart for the same.

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*/

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

```
int main() {
```

```
char name[50];
```

```
float basic_salary, hra, da, pf, gross_salary;
```

```
printf("Enter name: ");
```

```
scanf("%s", name);
```

```
printf("Enter Basic Salary: ");
```

```
scanf("%f", &basic_salary);
```

```
printf("Enter HRA: ");
```

```
scanf("%f", &hra);
```

```
printf("Enter D.A.: ");
```

```
scanf("%f", &da);
```

```
pf = 0.12 * basic_salary;
```

```
gross_salary = basic_salary + hra + da - pf;
```

```
printf("\nName: %s\n", name);
```

```
printf("BASIC: %.6f\n", basic_salary);
```

```
printf("HRA: %.6f\n", hra);
```

```
printf("DA: %.6f\n", da);
```

```
printf("PF: %.6f\n", pf);
```

```
printf("***GROSS SALARY: %.6f ***\n", gross_salary);
```

```
return 0;
```

```
}
```

```
/* OUTPUT:
```

```
Enter name: TR
```

```
Enter Basic Salary: 23000
```

```
Enter HRA: 9500
```

```
Enter D.A.: 9500
```

```
Name: TR
```

```
BASIC: 23000.000000
```

```
HRA: 9500.000000
```

```
DA: 9500.000000
```

```
PF: 2760.000000
```

```
***GROSS SALARY: 44760.000000 ***
```

```
/*
```

AIM: Write a C program to read age of 15 person and count total Baby age,

School age and adult age.

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```
*/
```

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

```
int main() {
```

```
int age, i = 0;
```

```
int baby_count = 0, school_count = 0, adult_count = 0;
```

```
// Loop to read ages of 15 persons
```

```
while (i < 15) {
```

```
printf("Enter age of person [%d]: ", i + 1);

scanf("%d", &age);

if (age >= 0 && age <= 3) {

    baby_count++;

} else if (age >= 4 && age <= 14) {

    school_count++;

} else if (age >= 15) {

    adult_count++;

}

i++;

}

// Output the results

printf("Baby age: %d\n", baby_count);

printf("School age: %d\n", school_count);

printf("Adult age: %d\n", adult_count);

return 0;

}
```

/* OUTPUT:

```
Enter age of person [1]: 0
Enter age of person [2]: 1
Enter age of person [3]: 2
Enter age of person [4]: 3
Enter age of person [5]: 44
Enter age of person [6]: 55
Enter age of person [7]: 66
Enter age of person [8]: 44
Enter age of person [9]: 12
Enter age of person [10]: 13
Enter age of person [11]: 14
```

Enter age of person [12]: 55

Enter age of person [13]: 66

Enter age of person [14]: 18

Enter age of person [15]: 19

Baby age: 4

School age: 3

Adult age: 8

*/

/*

AIM: Write a C program to print the following Pyramid:

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*/

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

```
int main() {
```

```
int n = 5; // Number of rows
```

```
for (int i = 1; i <= n; i++) { // Loop for each row
```

```
for (int j = 1; j <= i; j++) { // Loop for each column in the row
```

```
printf("*");
```

```
}
```

```
printf("\n"); // Move to the next line after each row
```

```
}
```

```
return 0;
```

```
}
```

```
/* OUTPUT:
```

```
*
```

**

*/

/*

AIM: Write a C program to print Fibonacci series using recursion.

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*/

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

```
// Function to calculate Fibonacci number
```

```
int fibonacci(int n) {
```

```
    if (n == 0)
```

```
        return 0;
```

```
    else if (n == 1)
```

```
        return 1;
```

```
    else
```

```
        return (fibonacci(n - 1) + fibonacci(n - 2));
```

```
}
```

```
int main() {
```

```
    int n, i;
```

```
    // Input the total number of terms
```

```
    printf("Enter total number of terms: ");
```

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

```
    printf("Fibonacci series is: ");
```

```
for (i = 0; i < n; i++) {  
    printf("%d ", fibonacci(i));  
}  
return 0;  
}
```

/* OUTPUT:

Enter total number of terms: 10

Fibonacci series is: 0 1 1 2 3 5 8 13 21 34

/*

AIM: Write a C program that defines functions to perform the following tasks:

1. Create a function to calculate the area of a rectangle. The function should take the length and width as input and return the area.
2. Create a function to calculate the area of a circle. The function should take the radius as input and return the area. (Use the value of pi as 3.14159).
3. Create a function to calculate the area of a triangle. The function should take the base and height as input and return the area.
4. The program should:
 - o Prompt the user to select which geometric shape's area they would like to calculate.
 - o Based on the user's selection, the program should call the appropriate function and display the result.

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```

*/

#include <stdio.h>

// Function to calculate the area of a rectangle
float area_of_rectangle(float length, float width) {
    return length * width;
}

// Function to calculate the area of a circle
float area_of_circle(float radius) {
    const float pi = 3.14159;
    return pi * radius * radius;
}

// Function to calculate the area of a triangle
float area_of_triangle(float base, float height) {
    return 0.5 * base * height;
}

int main() {
    int choice;

    float length, width, radius, base, height;

    float area;

    char another;

    do {
        // Prompt user to select a shape
        printf("Select a shape to calculate its area:\n");
        printf("1. Rectangle\n");
        printf("2. Circle\n");
        printf("3. Triangle\n");
        printf("Enter your choice (1/2/3): ");
        scanf("%d", &choice);

        // Based on user's selection, call the appropriate function
    } while (choice < 1 || choice > 3);

    if (choice == 1) {
        printf("Enter length and width: ");
        scanf("%f %f", &length, &width);
        area = area_of_rectangle(length, width);
    } else if (choice == 2) {
        printf("Enter radius: ");
        scanf("%f", &radius);
        area = area_of_circle(radius);
    } else if (choice == 3) {
        printf("Enter base and height: ");
        scanf("%f %f", &base, &height);
        area = area_of_triangle(base, height);
    }

    printf("Area: %f\n", area);

    printf("Do you want to calculate another area? (y/n): ");
    scanf("%c", &another);
    while (another != 'y' & another != 'n')
        scanf("%c", &another);
    if (another == 'y')
        continue;
}

```

```
switch (choice) {  
  
case 1:  
  
printf("Enter length and width of the rectangle: ");  
  
scanf("%f %f", &length, &width);  
  
area = area_of_rectangle(length, width);  
  
printf("The area of the rectangle is: %.2f\n", area);  
  
break;  
  
case 2:  
  
printf("Enter radius of the circle: ");  
  
scanf("%f", &radius);  
  
area = area_of_circle(radius);  
  
printf("The area of the circle is: %.2f\n", area);  
  
break;  
  
case 3:  
  
printf("Enter base and height of the triangle: ");  
  
scanf("%f %f", &base, &height);  
  
area = area_of_triangle(base, height);  
  
printf("The area of the triangle is: %.2f\n", area);  
  
break;  
  
default:  
  
printf("Invalid choice.\n");  
  
break;  
  
}  
  
// Ask user if they want to calculate another area  
  
printf("Do you want to calculate another area? (y/n): ");  
  
scanf(" %c", &another);  
  
} while (another == 'y' || another == 'Y');  
  
return 0;  
  
}
```

/* OUTPUT:

Select a shape to calculate its area:

1. Rectangle

2. Circle

3. Triangle

Enter your choice (1/2/3): 1

Enter length and width of the rectangle: 5 3

The area of the rectangle is: 15.00

*/