**1.  Given two numbers, Swap those two numbers without using temporary variable**

**Input:**

Two integer values as input

**Output:**  
num1= value  
num2= value

SOLUTION:

#include <stdio.h>

int main() {

int num1, num2;

printf("Enter two integer values: ");

scanf("%d %d", &num1, &num2);

printf("Before swapping: num1 = %d, num2 = %d\n", num1, num2);

// Swapping using arithmetic operations

num1 = num1 + num2;

num2 = num1 - num2;

num1 = num1 - num2;

printf("After swapping: num1 = %d, num2 = %d\n", num1, num2);

return 0;

}

**2.  Calculate the number of years,weeks and the remaining days for the given total days**

**Input:**

Any Integer

**Output:**  
Number of Years:NO\_OF\_COMPLETE\_YEARS  
Number of Week:NO\_OF\_WEEKS\_LEFTOUT  
Number of Days:NO\_OF\_DAYS\_LEFTOUT

SOLUTION:

#include <stdio.h>

int main() {

int totalDays, years, weeks, days;

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

scanf("%d", &totalDays);

// Calculate years

years = totalDays / 365;

// Calculate remaining days after removing full years

totalDays = totalDays % 365;

// Calculate weeks

weeks = totalDays / 7;

// Calculate remaining days after removing full weeks

days = totalDays % 7;

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

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

printf("Number of Days: %d\n", days);

return 0;

}

**3.  Evaluate a polynomial of degree n.**

**Input:**

Enter the degree of the polynomial: 3

Enter the coefficients: 2 -1 3 4

Enter the value of x: 2

**Output:**

P(2)

SOLUTION:

#include <stdio.h>

int main() {

int degree, i;

float coefficients[100]; // Assuming a maximum degree of 99

float x, result = 0.0;

printf("Enter the degree of the polynomial: ");

scanf("%d", &degree);

printf("Enter the coefficients (starting from highest power): ");

for (i = degree; i >= 0; i--) {

scanf("%f", &coefficients[i]);

}

printf("Enter the value of x: ");

scanf("%f", &x);

// Evaluate the polynomial using Horner's method for efficiency

result = coefficients[degree]; // Start with the highest coefficient

for (i = degree - 1; i >= 0; i--) {

result = result \* x + coefficients[i];

}

printf("P(%.2f) = %.2f\n", x, result); // Print the result with 2 decimal places

return 0;

}