1. Program to calculate the area and perimeter of a rectangle:

#include <stdio.h>

int main() {

float length, width, area, perimeter;

printf("Enter the length of the rectangle: ");

scanf("%f", &length);

printf("Enter the width of the rectangle: ");

scanf("%f", &width);

area = length \* width;

perimeter = 2 \* (length + width);

printf("Area of the rectangle: %.2f\n", area);

printf("Perimeter of the rectangle: %.2f\n", perimeter);

return 0;

}

1. Program to find the number of days in a given month and year:

#include <stdio.h>

int main() {

int month, year, days;

printf("Enter the month number and year (separated by space): ");

scanf("%d %d", &month, &year);

if (month == 2) {

if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0))

days = 29;

else

days = 28;

} else if (month == 4 || month == 6 || month == 9 || month == 11) {

days = 30;

} else {

days = 31;

}

printf("%d %d has %d days\n", month, year, days);

return 0;

}

1. Program to find the sum and average of all odd numbers between two given values:

#include <stdio.h>

int main() {

int a, n, sum = 0, count = 0;

float average;

printf("Enter the start and end values (separated by space): ");

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

for (int i = a; i <= n; i++) {

if (i % 2 != 0) {

sum += i;

count++;

}

}

if (count == 0) {

printf("No odd numbers in the given range.\n");

} else {

average = (float)sum / count;

printf("Sum of odd numbers: %d\n", sum);

printf("Average of odd numbers: %.2f\n", average);

}

return 0;

}

1. Program to print all prime numbers between 'a' to 'n':

#include <stdio.h>

int isPrime(int num) {

if (num <= 1) return 0; // 0 and 1 are not prime

for (int i = 2; i \* i <= num; i++) {

if (num % i == 0) return 0; // If it is divisible by any number, not prime

}

return 1; // Otherwise, prime

}

int main() {

int a, n;

printf("Enter the lower and upper limits (separated by space): ");

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

printf("Prime numbers between %d and %d are:\n", a, n);

for (int i = a; i <= n; i++) {

if (isPrime(i)) {

printf("%d ", i);

}

}

printf("\n");

return 0;

}

1. Program to find the sum and average of array elements:

#include <stdio.h>

int main() {

int n;

float sum = 0, average;

printf("Enter the size of the array: ");

scanf("%d", &n);

int arr[n];

printf("Enter %d elements:\n", n);

for (int i = 0; i < n; i++) {

scanf("%d", &arr[i]);

sum += arr[i];

}

average = sum / n;

printf("Sum of array elements: %.2f\n", sum);

printf("Average of array elements: %.2f\n", average);

return 0;

}