1. C Program to check for prime number

#include <stdio.h>

void checkPrime(int N)

{

int flag = 1;

for (int i = 2; i <= N / 2; i++) {

if (N % i == 0) {

flag = 0;

break;

} }

if (flag) {

printf("The number %d is a Prime Number\n", N);

}

else {

printf("The number %d is not a Prime Number\n", N); }

return;

}

int main()

{

int N = 546;

checkPrime(N);

return 0;

2. C program to demonstrate addition of complex numbers

#include <stdio.h>

typedef struct complexNumber {

int real;

int img;

} complex;

complex add(complex x, complex y);

int main()

{

complex a, b, sum;

a.real = 2;

a.img = 3;

b.real = 4;

b.img = 5;

printf("\n a = %d + %di", a.real, a.img);

printf("\n b = %d + %di", b.real, b.img);

sum = add(a, b);

printf("\n sum = %d + %di", sum.real, sum.img);

return 0;

}

complex add(complex x, complex y)

{complex add;

add.real = x.real + y.real;

add.img = x.img + y.img;

return (add);

}

3. C program to check if a character is a vowel or consonant

#include <stdio.h>

int main()

{char ch = 'A';

if (ch == 'a' || ch == 'A' || ch == 'e' || ch == 'E'

|| ch == 'i' || ch == 'I' || ch == 'o' || ch == 'O'

|| ch == 'u' || ch == 'U') {

printf("The character %c is a vowel.\n", ch);

}

else {

printf("The character %c is a consonant.\n", ch);

}

4. C program to check if a given year is leap year or not

#include <stdio.h>

bool checkYear(int year)

{

if (year % 400 == 0)

return true;

else if (year % 100 == 0)

return false;

else if (year % 4 == 0)

return true;

return false;

}

int main()

{

int year = 2000;

if (checkYear(year)) {

printf("Leap Year");

}

else {

printf("Not a Leap Year");

}

return 0;

5. C program to check given number is Armstrong number or not using Sum

#include <stdio.h>

int main()

{int n = 153;

int temp = n;

int p = 0;

while (n > 0) {

int rem = n % 10;

p = (p) + (rem \* rem \* rem);

n = n / 10;

}

if (temp == p) {

printf("Yes. It is Armstrong No.");

}

else {

printf("No. It is not an Armstrong No.");

}

return 0;

}