C Programming Solutions

# Question 1

WAP using functions to display cube of a number.

## Solution

C Code:

#include <stdio.h>  
  
void displayCube(int number) {  
 int cube = number \* number \* number;  
 printf("The cube of %d is %d\n", number, cube);  
}  
  
int main() {  
 int num;  
 printf("Enter a number: ");  
 scanf("%d", &num);  
 displayCube(num);  
 return 0;  
}

## Output

# Question 2

WAP to display cube of first n numbers using function.

## Solution

C Code:

#include <stdio.h>  
  
void displayCubes(int n) {  
 for (int i = 1; i <= n; i++) {  
 printf("Cube of %d is %d\n", i, i \* i \* i);  
 }  
}  
  
int main() {  
 int n;  
 printf("Enter a positive integer: ");  
 scanf("%d", &n);  
 displayCubes(n);  
 return 0;  
}

## Output

# Question 3

Write a program in C to convert decimal number to octal number using the function.

## Solution

C Code:

#include <stdio.h>  
  
void decimalToOctal(int decimal) {  
 int octal[50], i = 0;  
  
 while (decimal != 0) {  
 octal[i] = decimal % 8;  
 decimal /= 8;  
 i++;  
 }  
  
 printf("Octal number: ");  
 for (int j = i - 1; j >= 0; j--) {  
 printf("%d", octal[j]);  
 }  
 printf("\n");  
}  
  
int main() {  
 int decimal;  
  
 printf("Enter a decimal number: ");  
 scanf("%d", &decimal);  
  
 decimalToOctal(decimal);  
  
 return 0;  
}

## Output

# Question 4

Write a program in C to add two complex numbers using function. Hint: Take real and imaginary part of complex numbers in different variable and perform the operaton.

## Solution

C Code:

#include <stdio.h>  
  
struct Complex {  
 float real;  
 float imag;  
};  
  
struct Complex addComplex(struct Complex c1, struct Complex c2) {  
 struct Complex result;  
 result.real = c1.real + c2.real;  
 result.imag = c1.imag + c2.imag;  
 return result;  
}  
  
int main() {  
 struct Complex c1, c2, sum;  
  
 printf("Enter real and imaginary parts of first complex number: ");  
 scanf("%f %f", &c1.real, &c1.imag);  
  
 printf("Enter real and imaginary parts of second complex number: ");  
 scanf("%f %f", &c2.real, &c2.imag);  
  
 sum = addComplex(c1, c2);  
  
 printf("Sum = %.2f + %.2fi\n", sum.real, sum.imag);  
 return 0;  
}

## Output

# Question 5

Write a program in C to compute Fibonacci series for a range using function.

## Solution

C Code:

#include <stdio.h>  
  
void fibonacci(int n) {  
 int a = 0, b = 1, next;  
 printf("Fibonacci Series up to %d:\n", n);  
 for (int i = 0; i < n; i++) {  
 if (i <= 1) {  
 next = i;  
 } else {  
 next = a + b;  
 a = b;  
 b = next;  
 }  
 printf("%d ", next);  
 }  
 printf("\n");  
}  
  
int main() {  
 int range;  
 printf("Enter the range for Fibonacci series: ");  
 scanf("%d", &range);  
 fibonacci(range);  
 return 0;  
}

## Output