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1. C program to perform all arithmetic operations.

#include <stdio.h>

Int main()

{

int num1, num2;

int sum, sub, mult, mod;

float div;

printf("Enter any two numbers: ");

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

sum = num1 + num2;

sub = num1 - num2;

mult = num1 \* num2;

div = (float) num1 / num2;

mod = num1 % num2;

printf("SUM = %d\n", sum);

printf("DIFFERENCE = %d\n", sub);

printf("PRODUCT = %d\n", mult);

printf("QUOTIENT = %f\n", div);

printf("MODULUS = %d", mod);

return 0; }

1. C program to find area of a triangle if base and height are given.

#include <stdio.h>

int main()

{

float base, height, area;

printf("Enter base of the triangle: ");

scanf("%f", &base);

printf("Enter height of the triangle: ");

scanf("%f", &height);

area = (base \* height) / 2;

printf("Area of the triangle = %.2f sq. units", area);

return 0;

}

1. . C program to find all angles of a triangle if two angles are given.

#include <stdio.h>

int main()

{

int a, b, c;

printf("Enter two angles of triangle: ");

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

c = 180 - (a + b);

printf("Third angle of the triangle = %d", c);

return 0;}

4.C program to convert days in to years, weeks and days.

#include <stdio.h>

int main()

{

int days, years, weeks;

printf("Enter days: ");

scanf("%d", &days);

years = (days / 365);

weeks = (days % 365) / 7;

days = days - ((years \* 365) + (weeks \* 7));

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

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

printf("DAYS: %d", days);

return 0;

}

1. C program to find power and square root of any number.

#include <stdio.h>

#include <math.h>

int main()

{

double num, root;

printf("Enter any number to find square root: ");

scanf("%lf", &num);

root = sqrt(num);

printf("Square root of %.2lf = %.2lf", num, root);

return 0;

}

6. C program to calculate total, average and percentage and grades of five subjects.

#include <stdio.h>

int main()

{

float eng, phy, chem, math, comp;

float total, average, percentage;

printf("Enter marks of five subjects: \n");

scanf("%f%f%f%f%f", &eng, &phy, &chem, &math, &comp);

total = eng + phy + chem + math + comp;

average = total / 5.0;

percentage = (total / 500.0) \* 100;

printf("Total marks = %.2f\n", total);

printf("Average marks = %.2f\n", average);

printf("Percentage = %.2f", percentage);

return 0;

}

7. C program to check Least Significant Bit (LSB) of a number using bitwise operator.

#include <stdio.h>

int main()

{

int num;

printf("Enter any number: ");

scanf("%d", &num);

if(num & 1)

printf("LSB of %d is set (1).", num);

else

printf("LSB of %d is unset (0).", num);

return 0;

}

8. C program to swap two numbers without USING 3RD VARIABLE.

#include<stdio.h>

int main()

{

int a=10, b=20;

printf("Before swap a=%d b=%d",a,b);

a=a+b;

b=a-b;

a=a-b;

printf("\nAfter swap a=%d b=%d",a,b);

return 0;

}

9. C program to find maximum between three numbers using conditional operator OR Ternary Operator.

# include <stdio.h>

void main()

{

int a, b, c, big ;

printf("Enter three numbers : ");

scanf("%d %d %d", &a, &b, &c);

big = a > b ? (a > c ? a : c) : (b > c ? b : c);

printf("\nThe biggest number is : %d", big) ;

}

10. C program to check alphabet, digit or special character using Conditional operator

#include <stdio.h>

int main()

{

char ch;

printf("Enter any character: ");

scanf("%c", &ch);

if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))

{

printf("'%c' is alphabet.", ch);

}

else if(ch >= '0' && ch <= '9')

{

printf("'%c' is digit.", ch);

}

else

{

printf("'%c' is special character.", ch);

}

return 0;

}

11. C program to calculate total electricity bill.

#include <stdio.h>

int main()

{

int unit;

float amt, total\_amt, sur\_charge;

printf("Enter total units consumed: ");

scanf("%d", &unit);

if(unit <= 50)

{

amt = unit \* 0.50;

}

else if(unit <= 150)

{

amt = 25 + ((unit-50) \* 0.75);

}

else if(unit <= 250)

{

amt = 100 + ((unit-150) \* 1.20);

}

else

{

amt = 220 + ((unit-250) \* 1.50);

}

sur\_charge = amt \* 0.20;

total\_amt = amt + sur\_charge;

printf("Electricity Bill = Rs. %.2f", total\_amt);

return 0;

}

12. C program to create Simple Calculator using switch case.

#include <stdio.h>

int main(){

char op;

double first, second;

printf("Enter an operator (+, -, \*, /): ");

scanf("%c", &op);

printf("Enter two operands: ");

scanf("%lf %lf", &first, &second);

switch (op) {

case '+':

printf("%.1lf + %.1lf = %.1lf", first, second, first + second);

break;

case '-':

printf("%.1lf - %.1lf = %.1lf", first, second, first - second);

break;

case '\*':

printf("%.1lf \* %.1lf = %.1lf", first, second, first \* second);

break;

case '/':

printf("%.1lf / %.1lf = %.1lf", first, second, first / second);

break;

default:

printf("Error! operator is not correct");

}

return 0;

}

13. C program to check vowel or consonant using switch case.

#include <stdio.h>

int main()

{

char ch;

printf("Enter any alphabet: ");

scanf("%c", &ch);

switch(ch)

{

case 'a':

printf("Vowel");

break;

case 'e':

printf("Vowel");

break;

case 'i':

printf("Vowel");

break;

case 'o':

printf("Vowel");

break;

case 'u':

printf("Vowel");

break;

case 'A':

printf("Vowel");

break;

case 'E':

printf("Vowel");

break;

case 'I':

printf("Vowel");

break;

case 'O':

printf("Vowel");

break;

case 'U':

printf("Vowel");

break;

default:

printf("Consonant");

}

return 0;}

14. C program to check positive negative or zero using switch case.

#include <stdio.h>

int main()

{

int num;

printf("Enter any number: ");

scanf("%d", &num);

switch (num > 0)

{

case 1:

printf("%d is positive.", num);

break;

case 0:

switch (num < 0)

{

case 1:

printf("%d is negative.", num);

break;

case 0:

printf("%d is zero.", num);

break;

}

break;

}

return 0;}

15. C program to check whether a triangle is Equilateral, Isosceles or Scalene.

#include <stdio.h>

int main()

{

int side1, side2, side3;

printf("Enter three sides of triangle: ");

scanf("%d%d%d", &side1, &side2, &side3);

if(side1==side2 && side2==side3)

{

printf("Equilateral triangle.");

}

else if(side1==side2 || side1==side3 || side2==side3)

{

printf("Isosceles triangle.");

}

else

{

printf("Scalene triangle.");

}

return 0;

}

16. C program to print all natural numbers AND sum of it from 1 to n.

#include <stdio.h>

int main()

{

int i, n, sum=0;

printf("Enter upper limit: ");

scanf("%d", &n);

for(i=1; i<=n; i++)

{

sum += i;

}

printf("Sum of first %d natural numbers = %d", n, sum);

return 0;

}

17. C program to print all even numbers AND sum of it from 1 to n

#include <stdio.h>

int main()

{

int i, n, sum=0;

printf("Enter upper limit: ");

scanf("%d", &n);

for(i=2; i<=n; i+=2)

{

sum += i;

}

printf("Sum of all even number between 1 to %d = %d", n, sum);

return 0;

}

18. C program to print multiplication table of a number.

#include <stdio.h>

int main(){

int i, num;

printf("Enter number to print table: ");

scanf("%d", &num);

for(i=1; i<=10; i++)

{

printf("%d \* %d = %d\n", num, i, (num\*i));

}

return 0;

}

19. C program to calculate factorial of a number.

#include <stdio.h>

int main() {

int n, i;

unsigned long long fact = 1;

printf("Enter an integer: ");

scanf("%d", &n);

if (n < 0)

printf("Error! Factorial of a negative number doesn't exist.");

else {

for (i = 1; i <= n; ++i) {

fact \*= i;

}

printf("Factorial of %d = %llu", n, fact);

}

return 0;

}

20. C program to check whether a number is palindrome or not.

#include <stdio.h>

int main() {

int n, reversed = 0, remainder, original;

printf("Enter an integer: ");

scanf("%d", &n);

original = n;

while (n != 0) {

remainder = n % 10;

reversed = reversed \* 10 + remainder;

n /= 10;

}

if (original == reversed)

printf("%d is a palindrome.", original);

else

printf("%d is not a palindrome.", original);

return 0;

}

21. C program to count frequency of digits in a given number.

#include <stdio.h>

#define BASE 10

int main()

{

long long num, n;

int i, lastDigit;

int freq[BASE];

printf("Enter any number: ");

scanf("%lld", &num);

for(i=0; i<BASE; i++)

{

freq[i] = 0;

}

n = num;

while(n != 0)

{

lastDigit = n % 10;

n /= 10;

freq[lastDigit]++;

}

printf("Frequency of each digit in %lld is: \n", num);

for(i=0; i<BASE; i++)

{

printf("Frequency of %d = %d\n", i, freq[i]);

}

return 0; }

22. C program to find HCF(GCD) AND LCM of two numbers.

#include <stdio.h>

int main() {

int a, b, x, y, t, gcd, lcm;

printf("Enter two integers\n");

scanf("%d%d", &x, &y);

a = x;

b = y;

while (b != 0){

t = b;

b = a % b;

a = t;

}

gcd = a;

lcm = (x\*y)/gcd;

printf("Greatest common divisor of %d and %d = %d\n", x, y, gcd);

printf("Least common multiple of %d and %d = %d\n", x, y, lcm);

return 0;

}

23. C program to print all prime numbers between 1 to n.

#include<stdio.h>

int main(){

int num,i,count,n;

printf("Enter max range: ");

scanf("%d",&n);

for(num = 1;num<=n;num++){

count = 0;

for(i=2;i<=num/2;i++){

if(num%i==0){

count++;

break;

}

}

if(count==0 && num!= 1)

printf("%d ",num);

}

return 0;

}

24. C program to print all Strong Numbers between 1 to n.

#include <stdio.h>

int main()

{

int i, j, cur, lastDigit, end;

long long fact, sum;

printf("Enter upper limit: ");

scanf("%d", &end);

printf("All Strong numbers between 1 to %d are:\n", end);

for(i=1; i<=end; i++)

{

cur = i;

sum = 0;

while(cur > 0)

{

fact = 1ll;

lastDigit = cur % 10;

for( j=1; j<=lastDigit; j++)

{

fact = fact \* j;

}

sum += fact;

cur /= 10;

}

if(sum == i)

{

printf("%d, ", i);

}

}

return 0;

}

25. C program to print Fibonacci series up to n terms.

#include <stdio.h>

int main()

{

int a, b, c, i, terms;

printf("Enter number of terms: ");

scanf("%d", &terms);

a = 0;

b = 1;

c = 0;

printf("Fibonacci terms: \n");

for(i=1; i<=terms; i++)

{

printf("%d, ", c);

a = b;

b = c;

c = a + b;

}

return 0;

}

26. C program to print Armstrong numbers from 1 to n.

#include <stdio.h>

#include <math.h>

int main()

{

int num, lastDigit, digits, sum, i, end;

printf("Enter upper limit: ");

scanf("%d", &end);

printf("Armstrong number between 1 to %d are: \n", end);

for(i=1; i<=end; i++)

{

sum = 0;

num = i;

digits = (int) log10(num) + 1;

while(num > 0)

{

lastDigit = num % 10;

sum = sum + ceil(pow(lastDigit, digits));

num = num / 10;

}

if(i == sum)

{

printf("%d, ", i);

}

}

return 0;

}

27. C program to print all Perfect numbers between 1 to n.

#include <stdio.h>

int main()

{

int i, j, end, sum;

printf("Enter upper limit: ");

scanf("%d", &end);

printf("All Perfect numbers between 1 to %d:\n", end);

for(i=1; i<=end; i++)

{

sum = 0;

for(j=1; j<i; j++)

{

if(i % j == 0)

{

sum += j;

}

}

if(sum == i)

{

printf("%d, ", i);

}

}

return 0;

}

28. C program to find power of any number using for loop.

#include <stdio.h>

int main()

{

int base, exponent;

long long power = 1;

int i;

printf("Enter base: ");

scanf("%d", &base);

printf("Enter exponent: ");

scanf("%d", &exponent);

for(i=1; i<=exponent; i++)

{

power = power \* base;

}

printf("%d ^ %d = %lld", base, exponent, power);

return 0;

}

29. C program to print ASCII values of all characters.

#include <stdio.h>

int main() {

char c;

printf("Enter a character: ");

scanf("%c", &c);

printf("ASCII value of %c = %d", c, c);

return 0;

}

30. C program to print Pascal triangle up to n rows.

#include <stdio.h>

int getFactorial(int n);

int main(){

int row, rows, i, value;

printf("Enter Number of Rows of Pascal Triangle\n");

scanf("%d", &rows);

for(row = 0; row < rows; row++){

for(i = row; i <= rows; i++)

printf(" ");

for(i = 0; i <= row; i++){

value = getFactorial(row)/(getFactorial(i)\*getFactorial(row-i));

printf("%4d", value);

}

printf("\n");

}

return 0;

}

int getFactorial(int N){

if(N < 0){

printf("Invalid Input: factorial not defined for negative numbers\n");

return 0;

}

int nFactorial = 1, counter;

for(counter = 1; counter <= N; counter++){

nFactorial = nFactorial \* counter;

}

return nFactorial;

}

31. C program to find sum of all elements of array.

#include<stdio.h>

**int** **main**()

{

**int** arr[**100**], size, i, sum = **0**;

printf("Enter array size**\n**");

scanf("%d",&size);

printf("Enter array elements**\n**");

**for**(i = **0**; i < size; i++)

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

**for**(i = **0**; i < size; i++)

sum = sum + arr[i];

printf("Sum of the array = %d**\n**",sum);

**return** **0**;

}

32. C program to copy one array to another array.

#include <stdio.h>

int main()

{

int arr1[] = {1, 2, 3, 4, 5};

int length = sizeof(arr1)/sizeof(arr1[0]);

int arr2[length];

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

arr2[i] = arr1[i];

}

printf("Elements of original array: \n");

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

printf("%d ", arr1[i]);

}

printf("\n");

printf("Elements of new array: \n");

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

printf("%d ", arr2[i]);

}

return 0; }

33. C program to insert an element in array at specified position.

# include < stdio.h >  
int  main( )  
{

int  a[20], i, n, ele, pos ;  
printf(" Enter the Numbers of elements: ") ;  
scanf("%d ",& n) ;  
printf("\n Enter the elements of array : \n") ;  
for (  i = 1 ; i < = n ; i++)  
scanf("%d ",& a[i]) ;  
printf("\n Array enter by user are :\n") ;  
for (  i = 1 ; i < = n ; i++)  
printf("%d \t",a[i]) ;  
  
printf("\n Enter the position you want to enter :") ;  
scanf("%d ",& pos) ;  
printf("\n Enter the element you want to enter :") ;  
scanf("%d ",& ele) ;  
  
for (  i = 1 ; i < = n ; i++)  
{

if ( i > pos )  
a[i] = a[i-1] ;  
else  
{

if ( i == pos )  
a[i] = ele ;  
else  
a[i] = a[i] ;

}

}  
printf("\n Array After Inserting element :\n") ;  
for (  i = 1 ; i < = n ; i++)  
pcanf("%d \t",a[i]) ;  
return ( 0 ) ;

}

34. C program to delete an element in array at specified position.

#include <stdio.h>

#define MAX\_SIZE 100

int main()

{

int arr[MAX\_SIZE];

int i, size, pos;

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

scanf("%d", &size);

printf("Enter elements in array : ");

for(i=0; i<size; i++)

{

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

}

printf("Enter the element position to delete : ");

scanf("%d", &pos);

if(pos < 0 || pos > size)

{

printf("Invalid position! Please enter position between 1 to %d", size);

}

else

{

for(i=pos-1; i<size-1; i++)

{

arr[i] = arr[i + 1];

}

size--;

printf("\nElements of array after delete are : ");

for(i=0; i<size; i++)

{

printf("%d\t", arr[i]);

}

}

return 0;

}

35. C program to search element in array using Linear Search.

#include <stdio.h>

#include <conio.h>

int main(){

int inputArray[100], elementCount, counter, num;

printf("Enter Number of Elements in Array\n");

scanf("%d", &elementCount);

printf("Enter %d numbers \n", elementCount);

for(counter = 0; counter < elementCount; counter++){

scanf("%d", &inputArray[counter]);

}

printf("Enter a number to serach in Array\n");

scanf("%d", &num);

for(counter = 0; counter < elementCount; counter++){

if(inputArray[counter] == num){

printf("Number %d found at index %d\n", num, counter);

break;

}

}

if(counter == elementCount){

printf("Number %d Not Present in Input Array\n", num);

}

getch();

return 0;

}

36. C program to check MSB of a number using bitwise operator.

#include <stdio.h>

#define BITS sizeof(int) \* 8

int main()

{

int num, msb;

printf("Enter any number: ");

scanf("%d", &num);

msb = 1 << (BITS - 1);

if(num & msb)

printf("MSB of %d is set (1).", num);

else

printf("MSB of %d is unset (0).", num);

return 0;

}

37. C program to count total number of duplicate elements in an array.

#include <stdio.h>

#define MAX\_SIZE 100

int main()

{

int arr[MAX\_SIZE];

int i, j, size, count = 0;

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

scanf("%d", &size);

printf("Enter elements in array : ");

for(i=0; i<size; i++)

{

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

}

for(i=0; i<size; i++)

{

for(j=i+1; j<size; j++)

{

if(arr[i] == arr[j])

{

count++;

break;

}

}

}

printf("\nTotal number of duplicate elements found in array = %d", count);

return 0;

}

38. C program to perform scalar matrix multiplication.

#include <stdio.h>

#define SIZE 3

int main()

{

int A[SIZE][SIZE];

int num, row, col;

printf("Enter elements in matrix of size %dx%d: \n", SIZE, SIZE);

for(row=0; row<SIZE; row++)

{

for(col=0; col<SIZE; col++)

{

scanf("%d", &A[row][col]);

}

}

printf("Enter any number to multiply with matrix A: ");

scanf("%d", &num);

for(row=0; row<SIZE; row++)

{

for(col=0; col<SIZE; col++)

{

A[row][col] = num \* A[row][col];

}

}

printf("\nResultant matrix c.A = \n");

for(row=0; row<SIZE; row++)

{

for(col=0; col<SIZE; col++)

{

printf("%d ", A[row][col]);

}

printf("\n");

}

return 0;

}

39. C program to find sum of main diagonal elements of a matrix.

#include <stdio.h>

#define SIZE 3 // Matrix size

int main()

{

int A[SIZE][SIZE];

int row, col, sum = 0;

printf("Enter elements in matrix of size %dx%d: \n", SIZE, SIZE);

for(row=0; row<SIZE; row++)

{

for(col=0; col<SIZE; col++)

{

scanf("%d", &A[row][col]);

}

}

for(row=0; row<SIZE; row++)

{

sum = sum + A[row][row];

}

printf("\nSum of main diagonal elements = %d", sum);

return 0;

}

40. C program to check a matrix is sparse matrix or not.

#include <stdio.h>

#include <conio.h>

int main(){

int rows, cols, row, col, count=0;

int matrix[50][50];

printf("Enter Rows and Columns of Matrix\n");

scanf("%d %d", &rows, &cols);

printf("Enter Matrix of size %dX%d\n", rows, cols);

for(row = 0; row < rows; row++){

for(col = 0; col < cols; col++){

scanf("%d", &matrix[row][col]);

}

}

for(row = 0; row < rows; row++){

for(col = 0; col < cols; col++){

if(matrix[row][col] == 0){

count++;

}

}

}

if(count > (rows\*cols)/2){

printf("Input Matrix is a Sparse Matrix\n");

} else {

printf("Input Matrix is Not a Sparse Matrix\n");

}

getch();

return 0;

}

41. C program to check whether a matrix is Identity matrix or not.

#include<stdio.h>

int main()

{

int i, j, rows, columns, a[10][10],Flag = 1;

printf("\n Please Enter Number of rows and columns : ");

scanf("%d %d", &i, &j);

printf("\n Please Enter the Matrix Elements \n");

for(rows = 0; rows < i; rows++)

{

for(columns = 0; columns < j; columns++)

{

scanf("%d", &a[rows][columns]);

}

}

for(rows = 0; rows < i; rows++)

{

for(columns = 0; columns < j; columns++)

{

if(a[rows][columns] != 1 && a[columns][rows] != 0)

{

Flag = 0;

break;

}

}

}

if(Flag == 1)

{

printf("\n The Matrix that you entered is an Identity Matrix ");

}

else

{

printf("\n The Matrix that you entered is Not an Identity Matrix ");

}

return 0;

}

42. C program to merge two sorted array in ascending order.

#include <stdio.h>

int main(){

int s1, s2, s3;

printf("\n Enter the size of 1st array ");

scanf("%d", & s1);

printf("\n Enter the size of 2nd array ");

scanf("%d", & s2);

s3 = s1 + s2;

printf("\n Enter the elements of 1st array\n");

int arr1[s1], arr2[s2], arr3[s3];

for (int i = 0; i < s1; i++) {

scanf("%d", & arr1[i]);

arr3[i] = arr1[i];

}

int k = s1;

printf("\nEnter the elements of 2nd array \n");

for (int i = 0; i < s2; i++)

{

scanf("%d", & arr2[i]);

arr3[k] = arr3[i];

k++;

}

printf("\nThe merged array before sorting : \n\t");

for (int i = 0; i < s3; i++)

printf("%d ", arr3[i]);

printf("\n The merged array after sorting\n\t");

for (int i = 0; i < s3; i++){

int tem;

for (int j = i + 1; j < s3; j++) {

if (arr3[i] > arr3[j]) {

tem = arr3[i];

arr3[i] = arr3[j];

arr3[j] = tem;

}

}

}

for (int i = 0; i < s3; i++)

{

printf(" %d ", arr3[i]);

}

}

43. C program to swap two numbers USING 3RD VARIABLE.

#include<stdio.h>

int main() {

double first, second, temp;

printf("Enter first number: ");

scanf("%lf", &first);

printf("Enter second number: ");

scanf("%lf", &second);

temp = first;

first = second;

second = temp;

printf("\nAfter swapping, first number = %.2lf\n", first);

printf("After swapping, second number = %.2lf", second);

return 0;

}

44. C program to check whether a string is palindrome or not without Compare Function of String

#include<stdio.h>

int main()

{

char string[40];

int length=0, flag=1,i;

printf("Enter string:\n");

gets(string);

for(i=0;string[i]!='\0';i++)

{

length++;

}

for(i=0;i< length/2;i++)

{

if( string[i] != string[length-1-i] )

{

flag=0;

break;

}

}

if(flag==1)

{

printf("PALINDROME");

}

else

{

printf("NOT PALINDROME");

}

return 0;

}

45. C program to count frequency of each character in a string.

#include <stdio.h>

#include <string.h>

int main()

{

char s[1000];

int i,j,k,count=0,n;

printf("Enter the string : ");

gets(s);

for(j=0;s[j];j++);

n=j;

printf(" frequency count character in string:\n");

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

{

count=1;

if(s[i])

{

for(j=i+1;j<n;j++)

{

if(s[i]==s[j])

{

count++;

s[j]='\0';

}

}

printf(" '%c' = %d \n",s[i],count);

}

}

return 0;

}

46. C program to find diameter, circumference and area of a circle using functions.

#include <stdio.h>

#include <math.h>

double getDiameter(double radius);

double getCircumference(double radius);

double getArea(double radius);

int main()

{

float radius, dia, circ, area;

printf("Enter radius of circle: ");

scanf("%f", &radius);

dia = getDiameter(radius);

circ = getCircumference(radius);

area = getArea(radius);

printf("Diameter of the circle = %.2f units\n", dia);

printf("Circumference of the circle = %.2f units\n", circ);

printf("Area of the circle = %.2f sq. units", area);

return 0;

}

double getDiameter(double radius)

{

return (2 \* radius);

}

double getCircumference(double radius)

{

return (2 \* M\_PI \* radius);

}

double getArea(double radius)

{

return (M\_PI \* radius \* radius);

}

47. C program to check prime, armstrong and perfect numbers using functions.

#include <stdio.h>

#include <math.h>

int isPrime(int num);

int isArmstrong(int num);

int isPerfect(int num);

int main()

{

int num;

printf("Enter any number: ");

scanf("%d", &num);

if(isPrime(num))

{

printf("%d is Prime number.\n", num);

}

else

{

printf("%d is not Prime number.\n", num);

}

if(isArmstrong(num))

{

printf("%d is Armstrong number.\n", num);

}

else

{

printf("%d is not Armstrong number.\n", num);

}

if(isPerfect(num))

{

printf("%d is Perfect number.\n", num);

}

else

{

printf("%d is not Perfect number.\n", num);

}

return 0;

}

int isPrime(int num)

{

int i;

for(i=2; i<=num/2; i++)

{

if(num%i == 0)

{

return 0;

}

}

return 1;

}

int isArmstrong(int num)

{

int lastDigit, sum, originalNum, digits;

sum = 0;

originalNum = num;

digits = (int) log10(num) + 1;

while(num > 0)

{

lastDigit = num % 10;

sum = sum + round(pow(lastDigit, digits));

num = num / 10;

}

return (originalNum == sum);

}

int isPerfect(int num)

{

int i, sum, n;

sum = 0;

n = num;

for(i=1; i<n; i++)

{

if(n%i == 0)

{

sum += i;

}

}

return (num == sum);

}

48. C program to add two number using pointers.

#include <stdio.h>

int main()  
{  
   int first, second, \*p, \*q, sum;

printf("Enter two integers to add**\n**");  
   scanf("%d%d", &first, &second);

   p = &first;  
   q = &second;

   sum = \*p + \*q;

   printf("Sum of the numbers = %d**\n**", sum);

   return 0;  
}

49. Swap 2 numbers using Call by Value .

#include <stdio.h>

void swap(int , int);

int main()

{

int a = 10;

int b = 20;

printf("Before swapping the values in main a = %d, b = %d\n",a,b);

swap(a,b);

printf("After swapping values in main a = %d, b = %d\n",a,b);

}

void swap (int a, int b)

{

int temp;

temp = a;

a=b;

b=temp;

printf("After swapping values in function a = %d, b = %d\n",a,b);

}

50. C program to copy an array to another array AND reverse an array using pointers.

#include <stdio.h>

#define MAX\_SIZE 100

void printArr(int \*arr, int size);

int main()

{

int arr[MAX\_SIZE];

int size;

int \*left = arr;

int \*right;

printf("Enter size of array: ");

scanf("%d", &size);

right = &arr[size - 1];

printf("Enter elements in array: ");

while(left <= right)

{

scanf("%d", left++);

}

printf("\nArray before reverse: ");

printArr(arr, size);

left = arr;

while(left < right)

{

\*left ^= \*right;

\*right ^= \*left;

\*left ^= \*right;

left++;

right--;

}

printf("\nArray after reverse: ");

printArr(arr, size);

return 0;

}

void printArr(int \* arr, int size)

{

int \* arrEnd = (arr + size - 1);

while(arr <= arrEnd)

{

printf("%d, ", \*arr);

arr++;

}

}

51. WAP IN C TO PRINT THE FOLLOWING PATTERN.

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#include <stdio.h>

int main()

{

int i, j, N;

printf("Enter number of rows: ");

scanf("%d", &N);

for(i=1; i<=N; i++)

{

for(j=1; j<=N; j++)

{

printf("\*");

}

printf("\n");

}

return 0;

}

52. WAP IN C TO PRINT THE FOLLOWING PATTERN.

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#include <stdio.h>

int main()

{

int i, j, N;

printf("Enter number of rows: ");

scanf("%d", &N);

for(i=1; i<=N; i++)

{

for(j=1; j<=N; j++)

{

if(i==1 || i==N || j==1 || j==N)

{

printf("\*");

}

else

{

printf(" ");

}

}

printf("\n");

}

return 0;

}

53. WAP IN C TO PRINT THE FOLLOWING PATTERN.

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#include <stdio.h>

int main()

{

int i, j, N;

printf("Enter number of rows: ");

scanf("%d", &N);

for(i=1; i<=N; i++)

{

for(j=1; j<=N; j++)

{

if(i==1 || i==N || j==1 || j==N || i==j || j==(N - i + 1))

{

printf("\*");

}

else

{

printf(" ");

}

}

printf("\n");

}

return 0;

}

54. WAP IN C TO PRINT THE FOLLOWING PATTERN:

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#include <stdio.h>

int main()

{

int i, j, rows;

printf("Enter rows: ");

scanf("%d", &rows);

for(i=1; i<=rows; i++)

{

for(j=1; j<=rows - i; j++)

{

printf(" ");

}

for(j=1; j<=rows; j++)

{

printf("\*");

}

printf("\n");

}

return 0;

}

55. WAP IN C TO PRINT THE FOLLOWING PATTERN:

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#include <stdio.h>

int main()

{

int i, j, rows;

printf("Enter rows : ");

scanf("%d", &rows);

for(i=1; i<=rows; i++)

{

for(j=1; j<=rows-i; j++)

{

printf(" ");

}

for(j=1; j<=rows; j++)

{

if(i==1 || i==rows || j==1 || j==rows)

printf("\*");

else

printf(" ");

}

printf("\n");

}

return 0;

}