**HOME WORK- 3**

1. Write a program in C to check a given number is even or odd using the function.

#include <stdio.h>

void check(int a)

{

if(a%2==0)

printf("Even");

else

printf("Odd");

}

int main() {

int a;

printf("Enter a number ");

scanf("%d",&a);

check(a);

return 0;

}

1. Write a program in C to check armstrong and perfect numbers using the function.

Input: - Input any number: 371

Output: -The 371 is an Armstrong number.

The 371 is not a Perfect number.

#include <stdio.h>

int check(int n)

{

int r,sum=0;

while(n>0)

{

r=n%10;

sum=sum+(r\*r\*r);

n=n/10;

}

return sum;

}

int main() {

int a,f;

printf("Enter a number ");

scanf("%d",&a);

f=check(a);

if(a==f)

printf("armstrong number ");

else

printf("not armstrong number");

return 0;

}

1. Write a program in C to print all perfect numbers in given range using the function.

#include <stdio.h>

int check(int n)

{

int r,sum=0;

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

{

if(n % i == 0)

sum = sum + i ;

}

return sum;

}

int main() {

int a,f;

printf("Enter a number ");

scanf("%d",&a);

f=check(a);

if(a==f)

printf("perfect number ");

else

printf("not perfect number");

return 0;

}

1. Predict Output?

|  |
| --- |
| #include <stdio.h>    int main()  {      int (\*ptr)(int ) = fun;      (\*ptr)(3);      return 0;  }    int fun(int n)  {    for(;n > 0; n--)      printf("HI FUNCTIONS ");    return 0;  } |

1. Consider following C function:

int f(int n)

{

static int i = 1;

if(n >= 5) return n;

n = n+i;

i++;

return f(n);

}

The value returned by f(1) is ?

The value returned by f(1) is 7

1. To Check Whether a Number can be Expressed as Sum of Two Prime Numbers.

#include<stdio.h>

int checkprime(int j)

{

int c=1;

for(int i=2;i<j;i++)

{

if(j%i==0)

{

c=0;

return c;

break;

}

}

if(c==1)

return c;

}

int main()

{

int a,g,h,b,c;

printf("Enter a number ");

scanf("%d",&a);

b=2;

c=a-2;

while(b<=((a/2)+1))

{

g=checkprime(b);

h=checkprime(c);

if((g&&h)==1)

{

printf("%d +%d = %d\n",b,c,a);

}

b++;

c--;

}

return 0;

}

1. Write a C program to find cube of any number using function.

#include <stdio.h>

int cube(int n)

{

return (n\*n\*n);

}

int main()

{

int a,b;

printf("Enter a number ");

scanf("%d",&a);

b=cube(a);

printf("The cube of the number is %d",b);

}

1. Write a C program to find diameter, circumference and area of circle using function.

#include <stdio.h>

float diameter(int n)

{

return (2\*n);

}

float circumference(int n)

{

return (2\*3.14\*n);

}

float area(int n)

{

return (3.14\*n\*n);

}

void main()

{

float a,b,c,d;

printf("Enter radius of circle ");

scanf("%f",&a);

b=diameter(a);

c=circumference(a);

d=area(a);

printf("The diamater is %1.1f\n",b);

printf("The circumference is %1.1f\n",c);

printf("The area is %1.3f\n",d);

}

1. Write a C program to find sum of digits of a given number using function.

#include <stdio.h>

float sum(int n)

{

int a,s=0;

while(n>0)

{

a=n%10;

n=n/10;

s=s+a;

}

return s;

}

int main()

{

int a,b;

printf("Enter number ");

scanf("%d",&a);

b=sum(a);

printf("The sum of digits is %d",b);

return 0;

}

1. Write a C program to find LCM of two numbers using recursion.

#include <stdio.h>

int gcd(int a, int b) {

if (b == 0) {

return a;

}

return gcd(b, a % b);

}

// Find the least common multiple of two numbers using the gcd function

int lcm(int a, int b) {

return (a \* b) / gcd(a, b);

}

int main() {

int a, b;

printf("Enter two positive integers: ");

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

printf("The LCM of %d and %d is %d\n", a, b, lcm(a, b));

return 0;

}