**Theory Exam 01**

**Answer**

**Answer 01 :**

#include<stdio.h>

int main()

{

int a=5, b=13;

//Write code here

int temp = a;

a = b;

b = temp;

//End of code

printf("%d and %d" , a, b);

return 0;

}

**Answer 02 :**

#include<stdio.h>

int main()

{

int a=0, b=0, c=0, d=0;

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

if (a>b && a>c && a>d){

printf("Largest = %d\n", a);

}

else if(b>a && b>c && b>d){

printf("Largest = %d\n", b);

}

else if(c>a && c>b && c>d){

printf("Largest = %d\n", c);

}

else{

printf("Largest = %d\n", d);

}

if (a<b && a<c && a<d){

printf("Smallest = %d", a);

}

else if(b<a && b<c && b<d){

printf("Smallest = %d", b);

}

else if(c<a && c<b && c<d){

printf("Smallest = %d", c);

}

else{

printf("Smallest = %d", d);

}

return 0;

}

**Answer 03 :**

#include<stdio.h>

int main()

{

long long int n, count=0;

scanf("%lld", &n);

while(n%10 > 0){

count++;

n = n / 10;

}

printf("%lld\n", count);

return 0;

}

**Answer 04 :**

#include<stdio.h>

int main()

{

long long int n, count=0;

scanf("%lld", &n);

while(n%10 > 0){

count += n % 10;

n = n / 10;

}

printf("%lld\n", count);

return 0;

}

**Answer 05 :**

#include<stdio.h>

int main()

{

int n;

scanf("%d", &n);

printf("%d, ", n);

while(n != 1){

if (n%2 == 0){

n /= 2;

if(n == 1){

printf("%d", n);

}

else{

printf("%d, ", n);

}

}

else{

n--;

printf("%d, ", n);

}

}

return 0;

}

**Answer 06 :**

#include<stdio.h>

int main()

{

int a, b;

printf("Enter the first number: ");

scanf("%d", &a);

printf("Enter the second number: ");

scanf("%d", &b);

if(a%b==0){

printf("The first number is divisible by the second number.");

}

else if (b%a == 0){

printf("The second number is divisible by the first number.");

}

else{

printf("None of them are divisible by the other. ");

}

return 0;

}

**Answer 07 :**

#include<stdio.h>

int main()

{

int n1, n2, a, b, temp=0;

scanf("%d %d",&n1 ,&n2);

a = n1;

b = n2;

if(a < b){

while(b % a != 0){

temp = b % a;

a = b;

b = temp;

}

printf("The GCD of %d and %d is %d.", n1, n2, temp);

}

else{

while(a % b != 0){

temp = a % b;

b = a;

a = temp;

}

printf("The GCD of %d and %d is %d.", n1, n2, temp);

}

return 0;

}

**Answer 08 :**

#include<stdio.h>

int main()

{

int n1, n2, a, b, temp=0;

scanf("%d %d",&n1 ,&n2);

a = n1;

b = n2;

if(a < b){

while(b % a != 0){

temp = b % a;

a = b;

b = temp;

}

}

else{

while(a % b != 0){

temp = a % b;

b = a;

a = temp;

}

}

printf("The LCM of %d and %d is %d.", n1, n2, (n1 \* n2)/ temp);

return 0;

}

**Answer 09 :**

#include<stdio.h>

#include <math.h>

int main()

{

int n;

double s, temp;

scanf("%d", &n);

s = sqrt(n);

temp = floor(n);

printf("The factors of %d are: ", n);

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

if(n%i==0){

printf("%d, ",i);

}

}

printf("%d.", n);

return 0;

}

**Answer 10 :**

#include<stdio.h>

#include <math.h>

int main()

{

int n, c=0;

scanf("%d", &n);

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

if(n%2 == 0){

c++;

}

}

if(c>2){

printf("Composite");

}

else{

printf("Prime");

}

return 0;

}