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Q1: Function to find GCD of two number.

#include <iostream>

using namespace std;

int find\_gcd(int num1, int num2) {

int gcd;

if (num1 < num2) {

int tmp;

tmp = num1;

num1 = num2;

num2 = tmp;

}

if (num1 == num2 \* num2) {

gcd = num1;

return gcd;

}

else if (num2 == num1 \* num1) {

gcd = num2;

return gcd;

}

else {

for (int i = 1; i <= num1; i++) {

if (num1 % i == 0 && num2 % i == 0) {

gcd = i;

}

}

return gcd;

}

}

int main() {

int num1, num2;

cout << "Enter Number 1: ";

cin >> num1;

cout << "Enter Number 2: ";

cin >> num2;

int out = find\_gcd(num1, num2);

cout << "GCD Is: " << out << endl;

return 0;

}

Q2: Function to calculate factorial for double n number.

#include <iostream>

using namespace std;

double fact(double num) {

double res = 1;

for (double i = num; i >= 1; i--) {

res = res \* i;

}

return res;

}

int main() {

double n;

cout << "Enter Number : ";

cin >> n;

double out = fact(n);

cout << "Factorial Is: " << out;

return 0;

}

Q3: Function to check is n a prime or not.

#include <iostream>

using namespace std;

void prime(int num) {

int checker = 0;

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

if (num % i == 0) {

checker++;

}

}

if (checker == 2) {

cout << "This Number Is Prime!";

}

else {

cout << "This Not Prime Number!";

}

}

int main() {

int n;

cout << "Enter Number You want To Check: ";

cin >> n;

prime(n);

return 0;

}

Q4: Function to find factors for n number.

#include <iostream>

using namespace std;

void factors(int num) {

int checker = 0;

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

if (num % i == 0) {

cout << i << " ";

}

}

}

int main() {

int n;

cout << "Enter Number You want To Check: ";

cin >> n;

factors(n);

return 0;

}

Q5: Function to print “ hello “ from another function ( use two function ).

#include <iostream>

using namespace std;

void hello() {

cout << "hello";

}

void sayHello() {

hello();

}

int main() {

sayHello();

return 0;

}

Q6: Function to find x power y using recursion.

#include <iostream>

using namespace std;

int powerNum(int base, int power) {

if (power >= 1) {

return base \* powerNum(base, power - 1);

}

}

int main() {

int x, y;

cout << "Enter Base Number: ";

cin >> x;

cout << "Enter Power Number: ";

cin >> y;

int out = powerNum(x, y);

cout << out;

return 0;

}

Q7: Write a program in C++ to find the Greatest Common Divisor (GCD) of two numbers.

#include <iostream>

using namespace std;

int main(){

int num1, num2, gcd;

cout<<"Enter Number 1: ";

cin>> num1;

cout<<"Enter Number 2: ";

cin>> num2;

if(num1 < num2){

int tmp;

tmp = num1;

num1 = num2;

num2 = tmp;

}

for(int i = 1; i <= num1; i++){

if(num1 % i == 0 && num2 % i == 0){

gcd = i;

}

}

cout<<"GCD Is: " << gcd << endl;

return 0;

}

Q8: Write a program in C++ to find the sum of digits of a given number.

#include <iostream>

using namespace std;

int main(){

int num, tmp, sum;

cout<<"Enter Your Number: ";

cin>> num;

while(num > 0){

tmp = num % 10;

sum = sum + tmp;

num = num / 10;

}

cout<<"Sum Of Digits: "<< sum << endl;

return 0;

}

Q7: Function take two parameter and replace them ( note : function is void and don’t use another variable ).

#include <iostream>

using namespace std;

void swap(int x, int y) {

x = x \* y;

y = x / y;

x = x / y;

cout << "X Value Now: " << x << endl;

cout << "Y Value Now: " << y;

}

int main() {

int num1, num2;

cout << "Enter X Value: ";

cin >> num1;

cout << "Enter Y Value: ";

cin >> num2;

swap(num1, num2);

return 0;

}