**1. Print Numbers from 1 to 100 Divisible by 3 and 5**

#include <iostream>

using namespace std;

int main() {

for (int i = 1; i <= 100; i++) {

if (i % 3 == 0 && i % 5 == 0) {

cout << i << " is divisible by both 3 and 5" << endl;

}

}

return 0;

}

**2. Print Prime Numbers Between 1 and 50**

#include <iostream>

using namespace std;

int main() {

for (int num = 2; num <= 50; num++) {

bool isPrime = true;

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

if (num % i == 0) {

isPrime = false;

break;

}

}

if (isPrime) {

cout << num << " is a prime number" << endl;

}

}

return 0;

}

**3. Calculate Factorial of a Number**

#include <iostream>

using namespace std;

int main() {

int n = 5;

int factorial = 1;

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

factorial \*= i;

}

cout << "Factorial of " << n << " is " << factorial << endl;

return 0;

}

**4. Print a Pyramid Pattern**

#include <iostream>

using namespace std;

int main() {

int rows = 5;

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

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

cout << " ";

}

for (int k = 1; k <= (2 \* i - 1); k++) {

cout << "\*";

}

cout << endl;

}

return 0;

}

**5. Find the Largest Number in an Array**

#include <iostream>

using namespace std;

int main() {

int arr[] = {12, 45, 23, 67, 34};

int max = arr[0];

for (int i = 1; i < 5; i++) {

if (arr[i] > max) {

max = arr[i];

}

}

cout << "The largest number is " << max << endl;

return 0;

}

**6. Sum of Diagonal Elements in a 3x3 Matrix**

#include <iostream>

using namespace std;

int main() {

int matrix[3][3] = {{1,2,3},{4,5,6},{7,8,9}};

int sum = 0;

for (int i = 0; i < 3; i++) {

sum += matrix[i][i];

}

cout << "Sum of main diagonal elements is " << sum << endl;

return 0;

}

**7. Print Fibonacci Sequence up to n Terms**

#include <iostream>

using namespace std;

int main() {

int n = 10;

int a = 0, b = 1, next;

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

cout << a << " ";

next = a + b;

a = b;

b = next;

}

return 0;

}

**8. Count Vowels in a String**

#include <iostream>

#include <string>

using namespace std;

int main() {

string text = "Hello World";

int count = 0;

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

char ch = tolower(text[i]);

if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {

count++;

}

}

cout << "Number of vowels: " << count << endl;

return 0;

}

**9. Reverse an Integer Array**

#include <iostream>

using namespace std;

int main() {

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

int n = 5;

for (int i = 0; i < n / 2; i++) {

int temp = arr[i];

arr[i] = arr[n - 1 - i];

arr[n - 1 - i] = temp;

}

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

cout << arr[i] << " ";

}

return 0;

}

**10. Display ASCII Values of Characters A to Z**

#include <iostream>

using namespace std;

int main() {

for (char c = 'A'; c <= 'Z'; c++) {

cout << c << " : " << int(c) << endl;

}

return 0;

}