**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;

}