**CODIGOS TALLER C++**

**PUNTO 1**

#include <iostream>

using namespace std;

int sumaMultiplos3y5(int limite) {

if (limite < 0) return 0;

int suma = 0;

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

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

suma += i;

}

}

return suma;

}

int main() {

int numero;

cout << "Ingresa un número: ";

cin >> numero;

int resultado = sumaMultiplos3y5(numero);

cout << "La suma de todos los múltiplos de 3 o 5 menores que " << numero << " es: " << resultado << endl;

return 0;

}

**PUNTO 2**

#include <iostream>

#include <vector>

using namespace std;

string likes(const vector<string>& names) {

int n = names.size();

switch (n) {

case 0:

return "no one likes this";

case 1:

return names[0] + " likes this";

case 2:

return names[0] + " and " + names[1] + " like this";

case 3:

return names[0] + ", " + names[1] + " and " + names[2] + " like this";

default:

return names[0] + ", " + names[1] + " and " + to\_string(n - 2) + " others like this";

}

}

int main() {

// Pruebas

vector<vector<string>> testCases = {

{},

{"Peter"},

{"Jacob", "Alex"},

{"Max", "John", "Mark"},

{"Alex", "Jacob", "Mark", "Max"}

};

for (const auto& test : testCases) {

cout << likes(test) << endl;

}

return 0;

}

**PUNTO 3**

#include <iostream>

#include <vector>

#include <string>

using namespace std;

string createPhoneNumber(const vector<int>& numbers) {

if (numbers.size() != 10) return "Número inválido";

string phone = "(";

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

phone += to\_string(numbers[i]);

}

phone += ") ";

for (int i = 3; i < 6; i++) {

phone += to\_string(numbers[i]);

}

phone += "-";

for (int i = 6; i < 10; i++) {

phone += to\_string(numbers[i]);

}

return phone;

}

int main() {

vector<int> ejemplo = {1, 2, 3, 4, 5, 6, 7, 8, 9, 0};

cout << "Número de teléfono: " << createPhoneNumber(ejemplo) << endl;

return 0;

}

**PUNTO 4**

#include <iostream>

#include <vector>

using namespace std;

int encontrarImpar(const vector<int>& nums) {

int resultado = 0;

for (int num : nums) {

resultado ^= num; // XOR acumulado

}

return resultado;

}

int main() {

// Ejemplos

vector<vector<int>> casos = {

{7},

{0},

{1, 1, 2},

{0, 1, 0, 1, 0},

{1, 2, 2, 3, 3, 3, 4, 3, 3, 3, 2, 2, 1}

};

for (const auto& caso : casos) {

cout << "Número impar en el arreglo: " << encontrarImpar(caso) << endl;

}

return 0;

}

**PUNTO 5**

#include <iostream>

#include <sstream>

#include <string>

using namespace std;

string spinWords(const string& sentence) {

stringstream ss(sentence);

string word, result;

while (ss >> word) {

if (word.length() >= 5) {

reverse(word.begin(), word.end());

}

result += word + " ";

}

// Elimina el último espacio extra

if (!result.empty()) result.pop\_back();

return result;

}

int main() {

cout << spinWords("Hey fellow warriors") << endl; // "Hey wollef sroirraw"

cout << spinWords("This is a test") << endl; // "This is a test"

cout << spinWords("This is another test") << endl; // "This is rehtona test"

return 0;

}