**SHANICE KWAMBOKA 188011 LAB WORK 11**

**C++**

***Number1***

#include <iostream>

using namespace std;

int main() {

// An array with 6 values already inside

double numbers[6] = {12.25, 32.50, 16.90, 23.00, 45.68, 50.60};

// Show the values

cout << "The array values are: ";

for (int i = 0; i < 6; i++) {

cout << numbers[i] << " ";

}

return 0;

}

***Number 2***

#include <iostream>

using namespace std;

int main() {

int values[7] = {45, 34, 24, 57, 78, 69, 48};

cout << "Each value divided by 7: ";

for (int i = 0; i < 7; i++) {

cout << values[i] / 7.0 << " ";

}

return 0;

}

***Number 3***

#include <iostream>

using namespace std;

int main() {

int nums[] = {2, 4, 6, 8, 10, 1, 3, 5, 7, 9};

int size = sizeof(nums) / sizeof(nums[0]);

cout << "Numbers in reverse: ";

for (int i = size - 1; i >= 0; i--) {

cout << nums[i] << " ";

}

return 0;

}

***Number 4***

#include <iostream>

#include <algorithm> // lets us use sort()

using namespace std;

int main() {

int nums[10], total = 0;

// Get numbers from user

cout << "Enter 10 numbers: ";

for (int i = 0; i < 10; i++) {

cin >> nums[i];

total += nums[i];

}

// Sort them smallest to biggest

sort(nums, nums + 10);

cout << "In ascending order: ";

for (int i = 0; i < 10; i++) cout << nums[i] << " ";

cout << "\nIn descending order: ";

for (int i = 9; i >= 0; i--) cout << nums[i] << " ";

cout << "\nThe sum of all numbers = " << total;

return 0;

}

***Number 5***

#include <iostream>

using namespace std;

int main() {

int values[7] = {45, 34, 24, 57, 78, 69, 48};

int biggest = values[0], smallest = values[0];

// Go through each value

for (int i = 1; i < 7; i++) {

if (values[i] > biggest) biggest = values[i];

if (values[i] < smallest) smallest = values[i];

}

cout << "Maximum value = " << biggest << endl;

cout << "Minimum value = " << smallest << endl;

return 0;

}

***Number 6***

#include <iostream>

using namespace std;

int main() {

int nums[5], sum = 0;

cout << "Enter 5 numbers: ";

for (int i = 0; i < 5; i++) {

cin >> nums[i];

sum += nums[i];

}

double average = sum / 5.0;

cout << "Sum = " << sum << endl;

cout << "Average = " << average << endl;

return 0;

}

***Number 7***

#include <iostream>

using namespace std;

int main() {

const int items = 10; // up to 10 budget items (rent, food, etc.)

const int months = 12; // 12 months

double budget[items][months];

// Start all values as zero

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

for (int j = 0; j < months; j++) {

budget[i][j] = 0;

}

}

cout << "A yearly budget table has been created." << endl;

return 0;

}

**PYTHON**

***Number 5***

# A list of numbers

values = [45, 34, 24, 57, 78, 69, 48]

# Use Python's built-in functions

largest = max(values)

smallest = min(values)

print("The largest number is:", largest)

print("The smallest number is:", smallest)

***Number 6***

# An empty list to keep the numbers

numbers = []

# Ask the user to type 5 numbers

for i in range(5):

num = float(input(f"Enter number {i+1}: "))

numbers.append(num)

# Add them up and work out the average

total = sum(numbers)

average = total / len(numbers)

print("The total of your numbers is:", total)

print("The average of your numbers is:", average)

***Number 7***

# Let's say we can budget up to 10 items (rent, food, etc.)

# Each item will have 12 values, one for each month

items = 10

months = 12

# Start everything at zero

budget = [[0 for \_ in range(months)] for \_ in range(items)]

print("A yearly budget table is ready!")

print("It has space for", items, "items across", months, "months.")

# Example: set rent (row 0) for January (column 0) to 500

budget[0][0] = 500

print("Rent for January is set to:", budget[0][0])

# Example: show all months for rent

print("Rent for the year:", budget[0])