**Day 4**

1.

#include <stdio.h>

void sum\_and\_average(int \*array, int size, int \*sum, float \*average) {

\*sum = 0;

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

\*sum += array[i];

}

\*average = (float)\*sum / size;

}

int main() {

int array[] = {12, 84, 20, 36, 64, 56, 72, 10, 45, 90};

int sum;

float average;

sum\_and\_average(array, sizeof(array) / sizeof(int), &sum, &average);

printf("Sum: %d\n", sum);

printf("Average: %.2f\n", average);

return 0;

}

2.

#include <stdio.h>

void min\_and\_max(int \*array, int size, int \*min, int \*max) {

\*min = array[0];

\*max = array[0];

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

if (array[i] < \*min) {

\*min = array[i];

}

else if (array[i] > \*max) {

\*max = array[i];

}

}

}

int main() {

int array[] = {64, 84, 20, 36, 12, 90, 72, 10, 45, 56};

int min, max;

min\_and\_max(array, sizeof(array) / sizeof(int), &min, &max);

printf("Min: %d\n", min);

printf("Max: %d\n", max);

return 0;

}

3.

#include <stdio.h>

void reverse\_array(int \*array, int size) {

int i = 0;

int j = size - 1;

while (i < j) {

int temp = array[i];

array[i] = array[j];

array[j] = temp;

i++;

j--;

}

}

int main() {

int array[] = {64, 84, 20, 36, 12, 90, 72, 10, 45, 56};

int size = sizeof(array) / sizeof(int);

printf("Original Array: ");

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

printf("%d ", array[i]);

}

printf("\n");

reverse\_array(array, size);

printf("Reversed Array: ");

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

printf("%d ", array[i]);

}

printf("\n");

return 0;

}

4.

#include <stdio.h>

int sum\_of\_even\_elements(int \*array, int size) {

int sum = 0;

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

if (array[i] % 2 == 0) {

sum += array[i];

}

}

return sum;

}

int sum\_of\_odd\_elements(int \*array, int size) {

int sum = 0;

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

if (array[i] % 2 != 0) {

sum += array[i];

}

}

return sum;

}

int main() {

int array[] = {64, 84, 21, 36, 17, 90, 77, 10, 48, 55};

int size = sizeof(array) / sizeof(int);

int sum\_of\_even = sum\_of\_even\_elements(array, size);

int sum\_of\_odd = sum\_of\_odd\_elements(array, size);

int difference = sum\_of\_even - sum\_of\_odd;

printf("Sum of even elements: %d\n", sum\_of\_even);

printf("Sum of odd elements: %d\n", sum\_of\_odd);

printf("Difference between even and odd elements: %d\n", difference);

return 0;

}

5.

#include <stdio.h>

int sum\_of\_even\_indexed\_elements(int \*array, int size) {

int sum = 0;

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

sum += array[i];

}

return sum;

}

int sum\_of\_odd\_indexed\_elements(int \*array, int size) {

int sum = 0;

for (int i = 1; i < size; i += 2) {

sum += array[i];

}

return sum;

}

int main() {

int array[] = {64, 84, 21, 36, 17, 90, 77, 10, 48, 55};

int size = sizeof(array) / sizeof(int);

int sum\_of\_even\_indexed = sum\_of\_even\_indexed\_elements(array, size);

int sum\_of\_odd\_indexed = sum\_of\_odd\_indexed\_elements(array, size);

int difference = sum\_of\_even\_indexed - sum\_of\_odd\_indexed;

printf("Sum of even indexed elements: %d\n", sum\_of\_even\_indexed);

printf("Sum of odd indexed elements: %d\n", sum\_of\_odd\_indexed);

printf("Difference between even and odd indexed elements: %d\n", difference);

return 0;

}