

Practical Number	06
Areas covered	Single Dimensional Arrays

1. Declare a Single dimensional array with 10 elements. Input the values to the array and find the followings;
 - I. Minimum value
 - II. Maximum value
 - III. Average value
 - IV. Reverse order of values

```
#include <stdio.h>

int main() {
    int array_size = 10;
    int array[array_size];
    printf("Enter 10 integer values for the array:\n");
    for (int i = 0; i < array_size; i++)
    {
        scanf("%d", &array[i]);
    }
    int minimum = array[0];
    int maximum = array[0];
    int sum = array[0];
    for (int i = 1; i < array_size; i++)
    {
        if (array[i] < minimum)
        {
            minimum = array[i];
        }
        if (array[i] > maximum)
```

```

{
    maximum = array[i];
}
sum += array[i];
}
float average = (float)sum / array_size;
int reversed_array[array_size];
for (int i = 0; i < array_size; i++) {
    reversed_array[i] = array[array_size - 1 - i];
}
printf("Original Array:");
for (int i = 0; i < array_size; i++) {
    printf(" %d", array[i]);
}
printf("\nMinimum Value: %d\n", minimum);
printf("Maximum Value: %d\n", maximum);
printf("Average Value: %.2f\n", average);
printf("Reverse Order:");
for (int i = 0; i < array_size; i++) {
    printf(" %d", reversed_array[i]);
}
printf("\n");
return 0;
}

```

2. Declare two single dimensional array with the size given by the user and find , display the followings;
 - Scalar Sum (Adding values of each element of an array)
 - Vector Sum (Adding values of each relative elements of an array and store them in third array)

```

#include <stdio.h>

void userinputarray(int size, int array[]) {
    for (int i = 0; i < size; i++) {
        printf("Enter element %d: ", i + 1);
        scanf("%d", &array[i]);
    }
}

int scalar(int size, int array[]) {
    int sum = 0;
    for (int i = 0; i < size; i++) {
        sum += array[i];
    }
    return sum;
}

void vector(int size, int array1[], int array2[], int result[]) {
    for (int i = 0; i < size; i++) {
        result[i] = array1[i] + array2[i];
    }
}

int main() {
    int size;
    printf("Enter the size of the arrays: ");
    scanf("%d", &size);

    if (size <= 0) {
        printf("Size should be a positive integer.\n");
        return 1;
    }

    int array1[size], array2[size], vresult[size];

    printf("\nFor Array 1:\n");
    userinputarray(size, array1);

    printf("\nFor Array 2:\n");
    userinputarray(size, array2);

    int sresult = scalar(size, array1);
    printf("\nScalar Sum: %d\n", sresult);

    vector(size, array1, array2, vresult);
    printf("\nVector Sum: ");
    for (int i = 0; i < size; i++) {
        printf("%d ", vresult[i]);
    }
}

```

```
}  
printf("\n");  
  
return 0;  
}
```