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Practical 06

1.

I.

```
#include <stdio.h>
int main() {
    int arr[10]; // Declare an array with 10 elements
    int min;     // Variable to store the minimum value
    int i;
    // Input values to the array
    printf("Enter 10 integer values:\n");
    for (i = 0; i < 10; i++) {
        printf("Enter value %d: ", i + 1);
        scanf("%d", &arr[i]);
    }
    // Assume the first element as the minimum initially
    min = arr[0];
    // Find the minimum value in the array
    for (i = 1; i < 10; i++) {
        if (arr[i] < min) {
            min = arr[i];
```

```
        }
    }
    // Output the minimum value
    printf("The minimum value is: %d\n", min);
    return 0;
}
```

II.

```
#include <stdio.h>
int main() {
    int arr[10]; // Declare an array with 10 elements
    int max;     // Variable to store the maximum value
    int i;
    // Input values to the array
    printf("Enter 10 integer values:\n");
    for (i = 0; i < 10; i++) {
        printf("Enter value %d: ", i + 1);
        scanf("%d", &arr[i]);
    }
    // Assume the first element as the maximum initially
    max = arr[0];
    // Find the maximum value in the array
    for (i = 1; i < 10; i++) {
        if (arr[i] > max) {
            max = arr[i];
```

```
        }
    }
    // Output the maximum value
    printf("The maximum value is: %d\n", max);
    return 0;
}
```

III.

```
#include <stdio.h>
int main() {
    int arr[10]; // Declare an array with 10 elements
    int sum = 0; // Variable to store the sum of elements
    int i;
    // Input values to the array
    printf("Enter 10 integer values:\n");
    for (i = 0; i < 10; i++) {
        printf("Enter value %d: ", i + 1);
        scanf("%d", &arr[i]);
        sum += arr[i]; // Add each element to the sum
    }
    // Calculate the average value
    float average = (float)sum / 10;
    // Output the average value
    printf("The average value is: %.2f\n", average);
    return 0;
```

```
}
```

IV.

```
int main() {
    int arr[10]; // Declare an array with 10 elements
    int i;

    // Input values to the array
    printf("Enter 10 integer values:\n");
    for (i = 0; i < 10; i++) {
        printf("Enter value %d: ", i + 1);
        scanf("%d", &arr[i]);
    }

    // Display the array in reverse order
    printf("The array in reverse order is: ");
    for (i = 9; i >= 0; i--) {
        printf("%d ", arr[i]);
    }

    return 0;
}
```

2.

• Scalar Sum

```
#include <stdio.h>
```

```
int main() {
    int size1, size2;
    // Input size for the first array
    printf("Enter the size of the first array: ");
    scanf("%d", &size1);
    // Input size for the second array
    printf("Enter the size of the second array: ");
    scanf("%d", &size2);
    // Declare two arrays with the specified sizes
    int arr1[size1], arr2[size2];
    int scalarSum1 = 0, scalarSum2 = 0;
    int i;
    // Input values to the first array
    printf("Enter %d integer values for the first array:\n", size1);
    for (i = 0; i < size1; i++) {
        printf("Enter value %d: ", i + 1);
        scanf("%d", &arr1[i]);
        scalarSum1 += arr1[i]; // Add each element to the scalar sum of
the first array
    }
    // Input values to the second array
    printf("Enter %d integer values for the second array:\n", size2);
    for (i = 0; i < size2; i++) {
        printf("Enter value %d: ", i + 1);
```

```
        scanf("%d", &arr2[i]);
        scalarSum2 += arr2[i]; // Add each element to the scalar sum of the second array
    }
    // Display the scalar sums of both arrays
    printf("Scalar Sum of the first array: %d\n", scalarSum1);
    printf("Scalar Sum of the second array: %d\n", scalarSum2);
    return 0;
}
```

• Vector Sum

```
#include <stdio.h>
int main() {
    int size;
    // Input size for the arrays
    printf("Enter the size of the arrays: ");
    scanf("%d", &size);
    // Declare three arrays with the specified size
    int arr1[size], arr2[size], vectorSum[size];
    int i;
    // Input values to the first array
    printf("Enter %d integer values for the first array:\n", size);
    for (i = 0; i < size; i++) {
        printf("Enter value %d: ", i + 1);
        scanf("%d", &arr1[i]);
```

```
    }
    // Input values to the second array
    printf("Enter %d integer values for the second array:\n", size);
    for (i = 0; i < size; i++) {
        printf("Enter value %d: ", i + 1);
        scanf("%d", &arr2[i]);
    }
    // Calculate the vector sum and store in the third array
    for (i = 0; i < size; i++) {
        vectorSum[i] = arr1[i] + arr2[i];
    }
    // Display the vector sum array
    printf("Vector Sum of the arrays:\n");
    for (i = 0; i < size; i++) {
        printf("%d ", vectorSum[i]);
    }
    return 0;
}
```