**(Array operations: Insert, Delete, Display)**

#include <stdio.h>

#define SIZE 100 // Maximum size of array

int main() {

int arr[SIZE], n, choice, pos, value;

printf("Enter number of elements: ");

scanf("%d", &n);

printf("Enter %d elements:\n", n);

for (int i = 0; i < n; i++)

scanf("%d", &arr[i]);

while (1) {

printf("\n--- Array Operations Menu ---\n");

printf("1. Display\n");

printf("2. Insert\n");

printf("3. Delete\n");

printf("4. Exit\n");

printf("Enter your choice: ");

scanf("%d", &choice);

switch (choice) {

case 1: // Display

printf("Array elements: ");

for (int i = 0; i < n; i++)

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

printf("\n");

break;

case 2: // Insert

if (n == SIZE) {

printf("Array is full! Cannot insert.\n");

} else {

printf("Enter position (1 to %d): ", n + 1);

scanf("%d", &pos);

printf("Enter value to insert: ");

scanf("%d", &value);

if (pos < 1 || pos > n + 1) {

printf("Invalid position!\n");

} else {

for (int i = n; i >= pos; i--)

arr[i] = arr[i - 1]; // Shift right

arr[pos - 1] = value;

n++;

printf("Value inserted.\n");

}

}

break;

case 3: // Delete

if (n == 0) {

printf("Array is empty! Nothing to delete.\n");

} else {

printf("Enter position (1 to %d): ", n);

scanf("%d", &pos);

if (pos < 1 || pos > n) {

printf("Invalid position!\n");

} else {

for (int i = pos - 1; i < n - 1; i++)

arr[i] = arr[i + 1]; // Shift left

n--;

printf("Value deleted.\n");

}

}

break;

case 4: // Exit

return 0;

default:

printf("Invalid choice! Try again.\n");

}

}

return 0;

}

