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COURSE NAME: DATA STRUCTURES FOR MODERN COMPUTING SYSTEMS

COURSE CODE: CSA0302

Experiment 29: Selection Sort

Code:

```
#include <stdio.h>

int main() {
   int arr[100], n, i, j, minIndex, temp;

   printf("Enter number of elements: ");
   scanf("%d", &n);

   printf("Enter %d elements:\n", n);
   for(i = 0; i < n; i++)
      scanf("%d", &arr[i]);

   printf("Original array: ");
   for(i = 0; i < n; i++)
      printf("%d ", arr[i]);
   printf("\n");

   // Selection Sort
   for(i = 0; i < n - 1; i++) {
      minIndex = i;
      for(j = i + 1; j < n; j++) {
         if(arr[j] < arr[minIndex])
            minIndex = j;
      }
```

```
        if(minIndex != i) {
            temp = arr[i];
            arr[i] = arr[minIndex];
            arr[minIndex] = temp;
        }
    }

    printf("Sorted array (Selection Sort): ");
    for(i = 0; i < n; i++)
        printf("%d ", arr[i]);
    printf("\n");

    return 0;
}
```

Output:

```
Enter number of elements: 5
Enter 5 elements:
22 12 25 44 36
Original array: 22 12 25 44 36
Sorted array (Selection Sort): 12 22 25 36 44


=== Code Execution Successful ===
```