DAA ASSIGNMENT

Name: Mahendra

Ht.no: 2303a51la9

WEEK1\_1\_GN\_DAA:

Imagine you work for a large logistics company that handles a high volume of package deliveries on a daily basis. The company's success hinges on ensuring that packages are delivered to their respective destinations efficiently and on time. To solve this problem, you create a program that can quickly process and classify packages based on their destination.

TEST CASE 1:

INPUT:  
Enter time to reach destination:  
20  
15  
30  
42  
OUTPUT:  
15  
20  
30  
42

TEST CASE 2:  
INPUT:  
Enter time to reach destination:  
15  
69  
80  
14  
OUTPUT:  
80  
69  
15  
14

Code:

#include <stdio.h>

void main() {

int a[50], i, j, k;

int n, tmp;

char opt;

printf("Enter size of array: ");

scanf("%d", &n);

printf("Enter time to reach destination:\n");

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

// printf("Enter element at %d: ", i + 1);

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

}

// Logic to sort array using selection sort

for (i = 0; i < n - 1; i++) {

for (j = i + 1; j < n; j++) {

if (a[i] > a[j]) {

tmp = a[j];

a[j] = a[i];

a[i] = tmp;

}

}

}

while ((getchar()) != '\n');

printf("Choose ascending or descending {a/d}: ");

scanf("%c", &opt);

if (opt == 'a') {

// printf("Ascending sorted array:\n");

for (k = 0; k < n; k++) {

// printf("Element at a[%d] is: %d\n", k + 1, a[k]);

printf("%d\n",a[k]);

}

}

else if (opt == 'd') {

// printf("Descending sorted array:\n");

for (k = n - 1; k >= 0; k--) {

// printf("Element at a[%d] is: %d\n", k + 1, a[k]);

printf("%d\n",a[k]);

}

}

else {

printf("Invalid option selected.\n");

}

}

WEEK1\_2\_GN\_DAA:

Imagine you are working for a retail store that sells a wide variety of products. The  
store has a vast inventory with thousands of items, and it's becoming challenging for  
the employees to manage and locate products efficiently. Customers often ask for  
specific items, and employees need to find them quickly. The sorting program's  
primary goal is to organize the products in the inventory systematically, allowing for  
faster and easier access to items when needed.  
Implement an efficient sorting algorithm to arrange the products based on product  
IDs.

Test Case-1

Input:  
Enter Products IDs:  
87, 67, 21, 59, 99, 46, 84, 32, 43, 12, 90, 23

After Sorting Product IDs:  
12,21,23,32,43,46,59,67,84,87,90,99

Test Case-2

Input:  
Enter Products IDs:  
64,56,21,90,32,87,59,60,43,10,29,74

After Sorting Product IDs:  
10,21,29,32,43,56,59,60,64,74,87,90

Code:

#include <stdio.h>

void main() {

int a[50], i, j, k;

int n, tmp;

char opt;

printf("Enter size of array: ");

scanf("%d", &n);

printf("Enter Products IDs:\n");

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

// printf("Enter element at %d: ", i + 1);

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

}

// Logic to sort array using selection sort

for (i = 0; i < n - 1; i++) {

for (j = i + 1; j < n; j++) {

if (a[i] > a[j]) {

tmp = a[j];

a[j] = a[i];

a[i] = tmp;

}

}

}

while ((getchar()) != '\n');

printf("Choose ascending or descending {a/d}: ");

scanf("%c", &opt);

if (opt == 'a') {

// printf("After Sorting Products IDs:n");

for (k = 0; k < n; k++) {

// printf("Element at a[%d] is: %d\n", k + 1, a[k]);

printf("%d\n",a[k]);

}

}

else if (opt == 'd') {

printf("After Sorting Orders Priority::\n");

for (k = n - 1; k >= 0; k--) {

// printf("Element at a[%d] is: %d\n", k + 1, a[k]);

printf("%d\n",a[k]);

}

}

else {

printf("Invalid option selected.\n");

}

}

WEEK1\_3\_GN\_DAA:

Imagine you're working for a large online marketplace company that facilitates the buying and selling of various products. As part of the order processing system, the company receives thousands of new orders every minute from customers all around the world. To ensure efficient and timely order fulfillment, the orders need to be sorted based on various criteria before they can be processed and shipped. Some customers may request advanced shipping or have urgent requirements. So, implement an application to arrange the Orders based on priority Number.

Test Case-1  
Input:  
Enter orders Priority Number:  
87, 67, 21, 59, 99, 46, 84, 32, 43, 12, 90, 23  
After Sorting Orders Priority:  
12,21,23,32,43,46,59,67,84,87,90,99

Test Case-2  
Input:  
Enter orders Priority Number:  
44,66,37,90,81,43,55,19,98,33,72,51  
After Sorting Orders Priority:  
19,33,37,43,44,51,55,66,72,81,90,98

Code:

#include <stdio.h>

void main() {

int a[50], i, j, k;

int n, tmp;

char opt;

printf("Enter size of array: ");

scanf("%d", &n);

printf("Enter orders Priority Number:n");

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

// printf("Enter element at %d: ", i + 1);

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

}

// Logic to sort array using selection sort

for (i = 0; i < n - 1; i++) {

for (j = i + 1; j < n; j++) {

if (a[i] > a[j]) {

tmp = a[j];

a[j] = a[i];

a[i] = tmp;

}

}

}

while ((getchar()) != '\n');

printf("Choose ascending or descending {a/d}: ");

scanf("%c", &opt);

if (opt == 'a') {

// printf("After Sorting Products IDs:n");

for (k = 0; k < n; k++) {

// printf("Element at a[%d] is: %d\n", k + 1, a[k]);

printf("%d\n",a[k]);

}

}

else if (opt == 'd') {

printf("After Sorting Orders Priority:\n");

for (k = n - 1; k >= 0; k--) {

// printf("Element at a[%d] is: %d\n", k + 1, a[k]);

printf("%d\n",a[k]);

}

}

else {

printf("Invalid option selected.\n");

}

}