**DAY 5 ASSIGNMENT**

**Question 1**

**Write the function for insertion sort.**

ANS:

// C program for insertion sort

#include <math.h>

#include <stdio.h>

/\* Function to sort an array using insertion sort\*/

void insertionSort(int arr[], int n)

{

int i, key, j;

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

key = arr[i];

j = i - 1;

/\* Move elements of arr[0..i-1], that are

greater than key, to one position ahead

of their current position \*/

while (j >= 0 && arr[j] > key) {

arr[j + 1] = arr[j];

j = j - 1;

}

arr[j + 1] = key;

}

}

// A utility function to print an array of size n

void printArray(int arr[], int n)

{

int i;

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

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

printf("\n");

}

/\* Driver program to test insertion sort \*/

int main()

{

int arr[] = { 12, 11, 13, 5, 6 };

int n = sizeof(arr) / sizeof(arr[0]);

insertionSort(arr, n);

printArray(arr, n);

return 0;

}