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***** Sorting of Number using Insertion sorting method *****

#include <stdio.h>
#include <conio.h>
#define size 5
void insertion_sort(int arr[], int n);
void main()
{   int arr[size], i, n;
    printf("\n Enter the number of elements in the array: ");
    scanf("%d", &n);
    printf("\n Enter the elements of the array: ");
    for(i=0;i<n;i++)
    {
        scanf("%d", &arr[i]);
    }
insertion_sort(arr, n);
printf("\n The sorted array is: \n");
for(i=0;i<n;i++)
    printf(" %d\t", arr[i]);
getch();
}
void insertion_sort(int arr[], int n)
{
    int i, j, temp;
    for(i=1;i<n;i++)
    {
        temp = arr[i];
        j = i-1;
    while((temp < arr[j]) && (j>=0))
    {
    arr[j+1] = arr[j];
    j--;
    }
    arr[j+1] = temp;
    }
}
```

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***** Sorting of string using insertion sorting method *****


#include <stdio.h>
#include <conio.h>
#include<string.h>

int main()
{
    // define an array
    char num[7][20]= {"Squirrel","Dog","Panda","Lion","Bear","Tiger","Rabbit"};
    char x[20];
    int i,j;

    printf("Array before Insertion Sort\n");
    for(i=0; i<7; i++)
    {
        printf("%s ",num[i]);
    }

    // run an outer loop i from 1 to N to repeat the process of insertion sort
    for(i=1; i<7; i++)
    {
        // x to be inserted at proper place
        strcpy(x,num[i]);

        // run an inner while loop j for insertion sort from i-1 to 0
        j=i-1;
        while(j>=0)
        {
            // now check if the value of x is less than num[j] then shift the
string num[j] towards right else break the inner loop j
            if(strcmpi(x,num[j])<0)
            {
                strcpy(num[j+1],num[j]);
            }
            else
            {
                break;
            }
            j=j-1;
        }
```

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        // outside the body of inner loop j insert the value of x at num[j+1]
position
        strcpy(num[j+1],x);
    }

    // print the sorted array
    printf("\n\nArray after Insertion Sort\n");
    for(i=0; i<7; i++)
    {
        printf("%s ",num[i]);
    }
    return 0;
}
```