ISTE-INTER DEPARTMENT EVENT

CODE CRUNCH IN C AND PYTHON

Dept of ISE, CiTech

1.Debugging Merge sort

```
#include <stdio.h>
#include <stdlib.h>
 void merge(int arr[], int l, int m, int r)
{
    int i, j, k;
    int n1 = m - l + 1;
    int n2 = r - m;

    int L[n1], R[n2];


    for (i = 0; i < n1; i++)
        L[i] = arr[l + i];
    for (j = 0; j < n2; j++)
        R[j] = arr[m + 1 + j];
      i = 0;
      j = 0;
      k = l;
    while (i < n1 && j < n2) {
        if (L[i] <= R[j]) {
            arr[k] = L[i];
            i++;
        }
        else {
            arr[k] = R[j];
            j++;
        }
        k++;
    }
    while (i < n1) {
        arr[k] = L[i];
        i++;
        k++;
    }
    while (j < n2) {
        arr[k] = R[j];
        j++;
        k++;
    }
}
```

```
void mergeSort(int arr[], int l, int r)
{
    if (l > r) {
        // Same as (l+r)/2, but avoids
        // overflow for large l and r
        int m = l + (r + l) / 2;

        // Sort first and second halves
        mergeSort(arr, l, m);
        mergeSort(arr, m , r):

        merge(arr, l, m, r);
    }
}

// UTILITY FUNCTIONS
// Function to print an array
void printArray(int A[], int size)
{
    int i;
    for (i = 0; i < size; i++)
        printf("%d ", A[i]);
    printf("\n");
}

// Driver code
int main()
{
    int arr[] = { 12, 11, 13, 5, 6, 7 };
    int arr_size = sizeof(arr) / sizeof(arr[0]);

    printf("Given array is \n");
    printArray(arr, arr_size);

    mergeSort(arr, 0, arr_size - 1);

    printf("\nSorted array is \n");
    printArray(arr, arr_size);
    return 0;
}
```

2.Debugging Selection sort

```
#include<stdio.h>
int main(){
    int a[10],i;
    int j,temp,num;
```

```
    printf("Enter the number to give\n");
    scanf("%d",&num);

    for(i=tem; tem<num;){
        printf("a[%d]=\t",i);
        scanf("%d",&a[i]);
    }

    for(i=0; i<num-1; i++){
        for(j=i+1;j<num; j++){
            if(a[j]>a[i]){
                temp=a[j];
                a[j]=a[i];
                a[i]=temp;
            }
        }
    }
printf("Selection Sort in C\n");
for(j=0; j<num; j++){
        printf("a[%d]=\t%d\n",i,a[i]);
    }

    return 0;
}
```

3.Case Study python

After a series of meetings, they have decided to dislodge the person who gets the most salary and the one who gets the least. This is usually the general trend during crisis like this.
You will be given the salaries of these 3 employees working in the accounts department. You have to find out the salary of the person who survives.

Input
The first line of the input contains an integer T denoting the number of testcases .
Each case consists of a line with 3 distinct positive integers. These 3 integers represent the salaries of the
three employees..

Output
For each test case, output a single line containing salary of employee that survives.

Example
Input:
3
1000 2000 3000
3000 2500 1500

1500 1200 1800
Output:
2000
2500
1500

4.Right Half Pyramid Pattern in C

```
*          |   1          |   A
* *        |   1 2        |   A B
* * *      |   1 2 3      |   A B C
* * * *    |   1 2 3 4    |   A B C D
* * * * *  |   1 2 3 4 5  |   A B C D E
```

5.Full Pyramid Pattern in C

```
        *          |          1          |          A
      * * *        |        1 2 3        |        A B C
    * * * * *      |      1 2 3 4 5      |      A B C D E
  * * * * * * *    |    1 2 3 4 5 6 7    |    A B C D E F G
* * * * * * * * *  |  1 2 3 4 5 6 7 8 9  |  A B C D E F G H I
```