Some programs in C - Part 2

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(1) sorting of some observations using qsort algorithm

```c
#include <stdio.h>

void sort(float [], int, int);

int main()
{
    int i, n;
    float data[100];

    printf("TOTAL OBSERVATIONS: ");
    scanf("%d", &n);

    printf("\nOBSERVATIONS: ");
    for(i=0; i<n; i++)
        scanf("%f",&data[i]);


    printf("\n\nBEFORE SORT\n\n");
    for(i=0; i<n; i++)
        printf("%g\t",data[i]);

    sort(data,0,n-1);

    printf("\n\nAFTER SORT\n\n");
    for(i=0; i<n; i++)
        printf("%g\t",data[i]);
}

void sort(float array[], int left, int right){
    int i=left, j=right;
    float pivot = array[(i+j)/2], temp;

    do{
        while (array[i] < pivot) i++;
```

```
        while (array[j] > pivot) j--;
        if (i <= j){
            temp = array[i];
            array[i] = array[j];
            array[j] = temp;
            i++;
            j--;
        }
    }while(i <= j);

    if (left < j)
        sort(array,left,j);
    if (right > i)
        sort(array,i,right);
}
```

Using this program obtain median, quartiles, deciles, percentiles of some observations.