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OS Assignment – 2

Task 1: Create a global array and sort it in the child process and print it in the main process. Is the output the sorted array or the original Array

```c
#include<stdio.h>
#include<unistd.h>

int a[8] = {12,56,1,25,3,6,9,7};

void sortArray(int*);
void displayArray(int*);

int main(){
        if(fork()==0){
                printf("\nInside Parent:");
                displayArray(a);
        }
        else{
                printf("\nInside Child:");
                sortArray(a);
                displayArray(a);
        }
}

void displayArray(int *a){
        for(int i=0;i<8;i++){
                printf("%d ",a[i]);
        }
}

void sortArray(int *a){
        int temp;
        for(int i=0;i<7;i++){
                for(int j=0;j<7-i;j++){
                        if(a[j]>a[j+1]){
                                temp = a[j+1];
                                a[j+1] = a[j];
                                a[j] = temp;
                        }
                }
        }
}
```

```
┌──(kali㉿kali)-[~/…/OS_LAB/OS/LAB/Week 4]
└─$ gcc ex1.c -o output

┌──(kali㉿kali)-[~/…/OS_LAB/OS/LAB/Week 4]
└─$ ./output

Inside Child:1 3 6 7 9 12 25 56
Inside Parent:12 56 1 25 3 6 9 7

┌──(kali㉿kali)-[~/…/OS_LAB/OS/LAB/Week 4]
└─$
```

The output will be the original array even if the array is a global declaration. This is because the child process gets it's own copy of data and changes to it are not reflected in the parent process.