



A1.c X A2.c X B1.c X B2.c X

```
1 #include<stdio.h>
2
3 void main(){
4     int i;
5     i = fork();
6     if(i==-1){
7         printf("Creation of child process was unsuccessful\n");
8     }
9     else if(i==0){
10        printf("Process id of child : %d\n", getpid());
11        printf("I'm child process\n");
12        exit(0);
13    }
14    else {
15        printf("I'm parent process\n");
16        printf("Process id of parent : %d\n", getpid());
17    }
18 }
```

I



```
#include<stdio.h>

void main() {
    int pid, ret;

    pid = fork();

    if(pid==-1){
        printf("Creation of child process was unsuccessful\n");
    }
    else if(pid == 0){
        printf("Current priority of child is: %d\n", nice());
        ret = nice(-5);
        printf("Child process is assigned higher priority: %d\n", ret);
        exit(0);
    }
    else{
        printf("Current priority of parent is: %d\n", nice(0));
        ret = nice(4);
        printf("Parent process is assigned lower priority: %d\n", ret);
    }
}
```



```
1 #include<stdio.h>
2
3 void printArray(int arr[10], int n){
4     int i;
5     for(i=0; i<n; i++){
6         printf("%d\t", arr[i]);
7     }
8
9     printf("\n");
10 }
11
12 void main() {
13     int pid, i, n, x, j, key, temp;
14     int arr[10];
15
16     printf("Enter no of elements : ");
17     scanf("%d", &n);
18
19     for(i=0; i<n; i++){
20         printf("Enter %dth element : ", i+1);
21         scanf("%d", &arr[i]);
22     }
23
24
25     pid = fork();
26
27     if(pid == -1){
28         printf("Creation of child process was unsuccessful\n");
29     }
30     else if(pid == 0){
```



```
30 else if(pid == 0){
31     // Insertion sort
32     printf("Sorting in Child (insertion)\n");
33
34     for(i=1; i<n; i++){
35         key = arr[i];
36         j= i-1;
37
38         while(j>=0 && key<arr[j]){
39             arr[j+1] = arr[j];
40             j--;
41         }
42         arr[j+1] = key;
43     }
44
45     printArray(arr, n);
46     exit(0);
47
48 }
49 else{
50     wait(&x);
51     // Bubble sort
52     for(i=0; i<n; i++){
53         for(j=0; j<n-i-1; j++){
54             if(arr[j]>arr[j+1]){
55                 temp = arr[j];
56                 arr[j] = arr[j+1];
57                 arr[j+1] = temp;
58             }
59         }
60     }
```



```
41     }
42     arr[j+1] = key;
43 }
44
45
46 printArray(arr, n);
47 exit(0);
48
49 }
50 else{
51     wait(&x);
52     // Bubble sort
53     for(i=0; i<n; i++){
54         for(j=0; j<n-i-1; j++){
55             if(arr[j]>arr[j+1]){
56                 temp = arr[j];
57                 arr[j] = arr[j+1];
58                 arr[j+1] = temp;
59             }
60         }
61     }
62
63     printf("Sorting in parent (bubble)\n");
64     printArray(arr, n);
65
66 }
67
68 }
69
70 }
```



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A1.c A2.c B1.c B2.c

```
1 #include<stdio.h>
2
3 void main() {
4     int pid, ret;
5
6     pid = fork();
7
8     if(pid== -1){
9         printf("Creation of child process was unsuccessful\n");
10    }
11    else if(pid == 0){
12        printf("Process id of child process before becoming an orphan : %d\n", getpid());
13        sleep(2);
14        printf("Pid of current parent process of child after orphan : %d\n", getppid());
15        printf("Pid of child process after becoming an orphan process : %d\n", getpid());
16        exit(0);
17    }
18    else{
19        //sleep(1);
20        printf("Process id of parent : %d\n", getpid());
21        //printf("Parent process is terminated\n");
22    }
23 }
24
25 }
```