Assignment A2_b

Implement fork, wait and execv

Code:

code.cpp

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <sys/types.h>
#include <sys/wait.h>
#include <string.h>


void print_arr(int [],int);

int main()
{
 int n;
 printf("Main Process\nPID: %d, PPID: %d\n\nEnter the size of array: ",
getpid(), getppid());
 scanf("%d", &n);

 printf("Please enter the elements in the array in ascending order: ");

 int arr[n];
 for(int i=0; i<n; i++)
   {
       scanf("%d",&arr[i]);
   }

 printf("Array is: ");
 for(int i=0; i<n; i++)
       printf(" %d, ",arr[i  ]);
  printf("\nForking current process.\n");

 pid_t pid = fork();
```

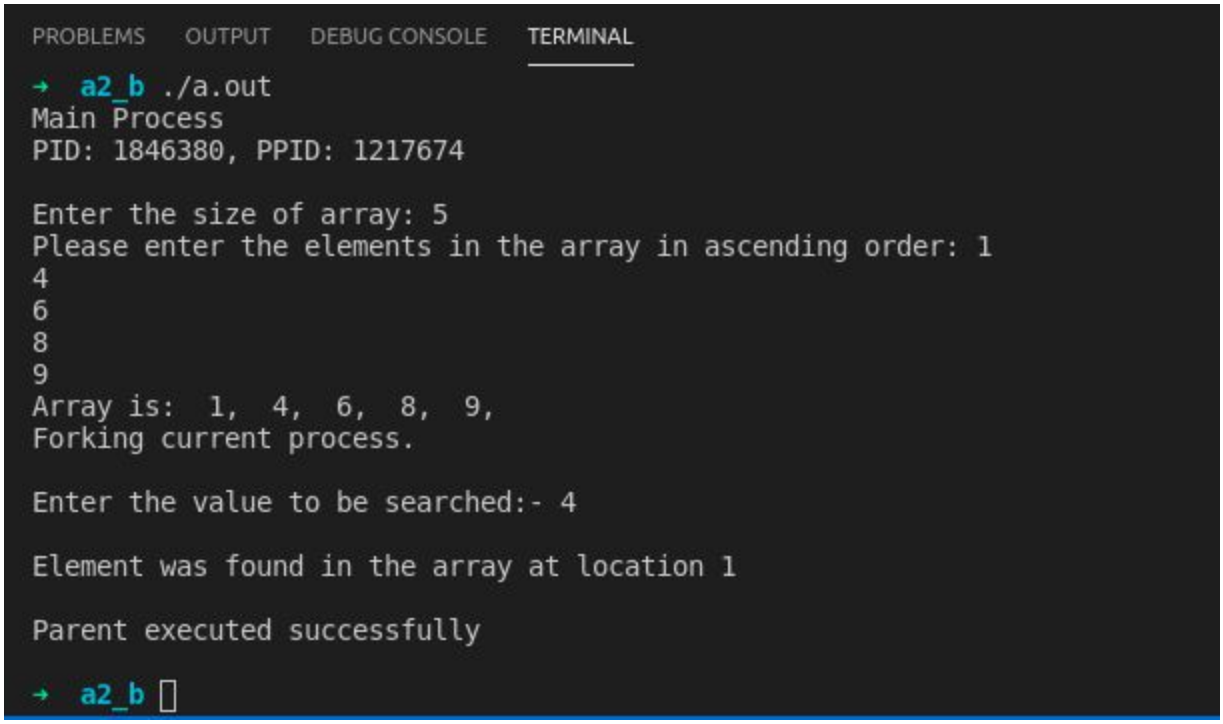
```
 if(pid==-1)
   printf("Error forking");
 else if(pid==0)
 {
   // Child
   char *buffer[n+1];

   buffer[0] = "./binary";

   for(int i=1;i<n+1;i++)
   {
       buffer[i] = malloc(20);
       snprintf(buffer[i], 20, "%d", arr[i-1]);
   }

   buffer[n] = NULL;

   execv("./binary",buffer);
 } else
 {
   // Parent
       wait(NULL);
       printf("\nParent executed successfully\n\n");
 }
    return 0;
}
```

bsearch.c

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <sys/types.h>
#include <sys/wait.h>
#include <string.h>

void binary_search(int [],int,int);

int main(int argc, char *argv[]){
```

```
   int arr[argc-1], search;

   for(int i=0;i<argc-1;i++)
       arr[i] = atoi(argv[i+1]);

   printf("\nEnter the value to be searched:- ");
   scanf("%d",&search);

   binary_search(arr,argc-1,search);

   return 0;
}

void binary_search(int arr[100],int no,int search)
{
   int first,last,mid;
   first = 0;
   last = no-1;
   mid = (first + last)/2;

   while(first<=last){
       if(arr[mid] < search)
           first=mid+1;
       else if(arr[mid] == search){
           printf("\nElement was found in the array at location %d\n",
mid);
           break;
       }
       else
           last = mid-1;
       mid = (first + last)/2;
   }

   if(first>last)
       printf("\nElement was not found in the array\n");
}
```

Output:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
→ a2_b ./a.out
Main Process
PID: 1846380, PPID: 1217674
Enter the size of array: 5
Please enter the elements in the array in ascending order: 1
4
6
8
9
Array is: 1, 4, 6, 8, 9,
Forking current process.
Enter the value to be searched:- 4
Element was found in the array at location 1
Parent executed successfully
→ a2_b