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LAB EXAM

Concepts of Programming & Operating System

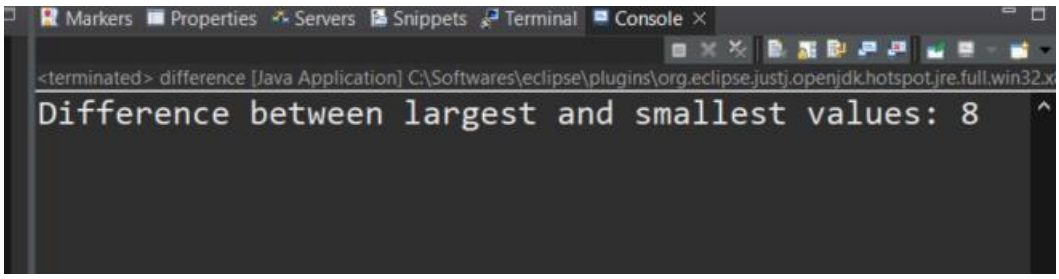
1. Write a program to find the difference between the largest and smallest values in an array of integers.

```java
package com.demo.main;
import java.util.Arrays;

public class difference {
    public static void main(String[] args) {
    int[] arr = {1, 2, 3, 4, 5, 6, 7, 8, 9};
    int min = Arrays.stream(arr).min().getAsInt();
    int max = Arrays.stream(arr).max().getAsInt();
    int diff = max - min;
System.out.println("Difference between largest and smallest values: " + diff);
      }
   }

```

Output: -



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2. Write a C program to create a parent process which terminates after the child finishes printing the contents of array.

```
  GNU nano 6.4
#include <stdio.h>
#include <unistd.h>
#include <sys/wait.h>

int main() {
    int n, i;
    printf("Enter the number of elements: ");
    scanf("%d", &n);

    int a[n];

    printf("Enter %d integers: ", n);
    for(i=0; i<n; i++) {
        scanf("%d", &a[i]);
    }

    pid_t pid = fork();

    if (pid < 0) {
        printf("Fork failed");
        return 1;
    } else if (pid == 0) {
        printf("Child process in execution\n");
        for(i=0; i<n; i++) {
            printf("%d ", a[i]);
        }
    } else {
        wait(NULL);
        printf("\nchild process finised\n");
        printf("\nParent process in execution\n");
    }

    return 0;
}
```

Output: -

```
┌──(kali㉿kali)-[~/lab_exam]
└─$ nano q2.c

┌──(kali㉿kali)-[~/lab_exam]
└─$ gcc q2.c -o q2

┌──(kali㉿kali)-[~/lab_exam]
└─$ ./q2
Enter the number of elements: 5
Enter 5 integers: 1
2
3
4
5
Child process in execution
1 2 3 4 5
child process finised

Parent process in execution
```

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