

QUESTION 2b: Write an efficient program to find out whether a sorted input array contains two elements whose sum is exactly equal to 198.

//(b) 99, 98, ---, 3, 2,1

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

```
//I have used binary search algorithm to get the second number
```

```
int binarySearch(int arr[], int l, int r, int current_value)
```

```
{
```

```
    if (r >= l) {
```

```
        int mid = l + (r - l) / 2;
```

```
        if (arr[mid]+current_value == 198){
```

```
            if(mid!=current_value){
```

```
                return mid;
```

```
            }
```

```
            else{
```

```
                return 0;
```

```
            }
```

```
    }
```

```
    if (arr[mid] +current_value> 198)
```

```
        return binarySearch(arr, l, mid - 1, current_value);
```

```
    return binarySearch(arr, mid + 1, r, current_value);
```

```
}
```

```
    return 0;
```

```
}
```

```
int main(void)
```

```
{
```

```

int arr[100];
int j;
for(j=99;j>0;j--){
    arr[j]=j;
}
int n = sizeof(arr) / sizeof(arr[0]);
int i,k=0;
bool flag=false;
for(i=99;i>0;i--){
    k=k+1;
    if(binarySearch(arr,0,n-k,i)){
        printf("%d + %d = 198\n", binarySearch(arr,0,n-1,i),i);
        flag = true;
    }
}
if(flag){
    printf("I have found Answer which meet the requirement.
look above");
}
else{
    printf("I have not found any two element which meet the
requirement.");
}
return 0;
}

```

OUTPUT:

```
F:\Academic KIIT\M.Tech\Algorithm\WEEK ONE\question2.exe
I have not found any two element which meet the requirement.
-----
Process exited after 0.03628 seconds with return value 0
Press any key to continue . . .
```