Find maximum element in Min-heap

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

void swap(int *a, int *b)
{
        int temp = *a;
        *a = *b;
        *b = temp;
}

void MinHeapify(int *arr, int index, int size)
{
        int left = 2*index + 1;
        int right = 2*index + 2;
        int smallest = index;

        if (left < size && arr[left] < arr[index])
      smallest = left;
   if (right < size && arr[right] < arr[smallest])
      smallest = right;
   if (smallest != index)
   {
      swap(&arr[index], &arr[smallest]);
      MinHeapify(arr, index, smallest);
   }
}

void buildMinHeap(int *arr, int size)
{
        for(int index = size/2 -1; index >= 0; index-- )
                MinHeapify(arr, index, size);
}

int findMaxElement(int *arr, int size)
{
        int Max = INT_MIN;
        for(int index = (size + 1)/2; index < size; index++)
                if(arr[index] > Max)
                        Max = arr[index];
        return Max;
}


int main()
{
        int *arr, size, index;
        printf("Enter size of heap\n");
        scanf("%d", &size);
```

```
	//allocate memory
	arr = (int *) malloc(sizeof(int) * size);

	printf("Enter elements in heap\n");
	for(index = 0; index < size; index++)
		scanf("%d", &arr[index]);
	buildMinHeap(arr, size);
	printf("Maximum element in Min-heap is = %d", findMaxElement(arr, size));


}
```

Time complexity: O(n)
Space Complexity: O(1)