# Exponential Search

```python
def binarySearch( arr, l, r, x):
    if r >= l:
        mid = int(l + ( r-l ) / 2)

        if arr[mid] == x:
            return mid

        if arr[mid] > x:
            return binarySearch(arr, l,mid - 1, x)


        return binarySearch(arr, mid + 1, r, x)

    return -1

def exponentialSearch(arr, n, x):
    if arr[0] == x:
        return 0
    i = 1
    while i < n and arr[i] <= x:
        i = i * 2

    return binarySearch( arr, i / 2, min(i, n-1), x)



# Driver Code
arr = [2, 3, 4, 10, 40]
n = len(arr)
x = 10
result = exponentialSearch(arr, n, x)
if result == -1:
    print("Element not found in thye array")
else:
    print("Element is present at index %d" % result)
```