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let mut v: Vec<i32> = vec![1,2,3];
let i: &i32 = &v[1];
v.push(4);
v.push(5);
println!("{}", i);
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## NOT ALLOWED

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## NOT ALLOWED

But why?

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let mut v: Vec<i32> = vec![1,2,3];
     let i: &i32 = &v[1];
     v.push(4);
     v.push(5);
     println!("{}", i);
                     Capacity: 4
                      Length: 3
                      Contents:
 v[0] = 1
 v[1] = 2
 v[2] = 3
UNDEFINED
```

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   v.push(5);
   println!("{}", i);
                    Capacity: 4
                    Length: 4
                     Contents:
v[0] = 1
v[1] = 2
v[2] = 3
v[3] = 4
```

```
let mut v: Vec<i32> = vec![1,2,3];
   let i: &i32 = &v[1];
   v.push(4);
   v.push(5);
   println!("{}", i);
                                          UNDEFINED
                    Capacity: 4
                                          UNDEFINED
                    Length: 4
                                          UNDEFINED
                     Contents:
                                          UNDEFINED
v[0] = 1
                                          UNDEFINED
v[1] = 2
                                          UNDEFINED
v[2] = 3
                                          UNDEFINED
                                          UNDEFINED
v[3] = 4
```

```
let mut v: Vec<i32> = vec![1,2,3];
   let i: &i32 = &v[1];
   v.push(4);
   v.push(5);
   println!("{}", i);
                                               v[0] = 1
                     Capacity: 4
                                               v[1] = 2
                      Length: 4
                                               v[2] = 3
                      Contents:
                                               v[3] = 4
v[0] = 1
                                               v[4] = 5
v[1] = 2
                                             UNDEFINED
v[2] = 3
                                             UNDEFINED
                                             UNDEFINED
v[3] = 4
```

```
let mut v: Vec<i32> = vec![1,2,3];
   let i: &i32 = &v[1];
   v.push(4);
   v.push(5);
   println!("{}", i);
                                               v[0] = 1
                     Capacity: 8
                                               v[1] = 2
                      Length: 5
                                               v[2] = 3
                      Contents:
                                               v[3] = 4
v[0] = 1
                                               v[4] = 5
v[1] = 2
                                             UNDEFINED
v[2] = 3
                                             UNDEFINED
                                             UNDEFINED
v[3] = 4
```

```
let mut v: Vec<i32> = vec![1,2,3];
     let i: &i32 = &v[1];
     v.push(4);
     v.push(5);
     println!("{}", i);
                                              v[0] = 1
                      Capacity: 8
                                              v[1] = 2
                      Length: 5
                                              v[2] = 3
                       Contents:
                                              v[3] = 4
UNDEFINED
                                              v[4] = 5
UNDEFINED
                                            UNDEFINED
UNDEFINED
                                            UNDEFINED
UNDEFINED
                                            UNDEFINED
```

```
let mut v: Vec<i32> = vec![1,2,3];
     let i: &i32 = &v[1];
     v.push(4);
     v.push(5);
     println!("{}", i);
                                              v[0] = 1
                      Capacity: 8
                                              v[1] = 2
                      Length: 5
                                              v[2] = 3
                       Contents:
                                              v[3] = 4
UNDEFINED
                                              v[4] = 5
                          USE
UNDEFINED <
                                            UNDEFINED
UNDEFINED
                                            UNDEFINED
                         FREE
UNDEFINED
                                            UNDEFINED
```