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## [Parsing text file lines into numbers using std::iter::iterator map](#)

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I'm trying to read and parse a text file in Rust. Each line is a signed integer. I'm able to do it using `for line in lines` iteration but I'm unable to do it with a `iter().map(|l| ...)` one-liner. I'm getting a

```
expected `core::result::Result<collections::string::String, std::io::error::Error>`,  
found `core::result::Result<_, _>`
```

when I try to pattern match `Ok(s) => match s.parse()` but I'm unable to get to the bottom of what I am doing wrong. The whole example is below. The code on the bottom is the code that is producing the error.

Can anyone tell what I am doing wrong?

```
use std::error::Error;  
use std::fs::File;  
use std::io::BufReader;  
use std::io::prelude::*;  
use std::path::Path;  
  
fn main() {  
    // Create a path to the desired file  
    let path = Path::new("input/numbers.txt");  
    let display = path.display();  
  
    // Open the path in read-only mode, returns `io::Result<File>`  
    let file = match File::open(&path) {  
        // The `description` method of `io::Error` returns a string that describes the error  
        Err(why) => panic!("couldn't open {}: {}", display, Error::description(&why)),  
        Ok(file) => file,  
    };  
  
    // Collect all lines into a vector  
    let reader = BufReader::new(file);  
    let lines: Vec<_> = reader.lines().collect();  
  
    // Works.  
    let mut nums = vec![];  
    for l in lines {  
        println!("{}", l);  
        let num = match l {  
            Ok(s) => match s.parse() {  
                Ok(i) => i,  
                Err(_) => 0  
            },  
            Err(_) => 0  
        };  
        nums.push(num);  
    }  
  
    // Doesn't work!  
    let nums: Vec<i64> = lines.iter().map(|l| match l {  
        Ok(s) => match s.parse() {  
            Ok(i) => i,  
            Err(_) => 0  
        },  
        Err(_) => 0  
    });  
}
```

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Let's look at the *complete* error message, which points to the error for us:

```
<anon>:5:9: 5:14 error: mismatched types:
expected `core::result::Result<&str, ()>`,
   found `core::result::Result<_, _>`
(expected &-ptr,
   found enum `core::result::Result` ) [E0308]
<anon>:5      Ok(s) => match s.parse() {
               ^~~~~
```

The compiler is expecting a `&Result`, but found a `Result`, and the issue is with the `Ok(s)` pattern. The type of `l` is a *reference* to a `Result` because you are using [iter](#) - which returns [an iterator of references](#) to the items in the vector.

The shortest fix is to add a `&` to the pattern match for the closure variable:

```
fn main() {
    let lines: Vec<Result<_, ()>> = vec![Ok("1"), Ok("3"), Ok("5")];

    // HERE                                     V
    let nums: Vec<i64> = lines.iter().map(|&l| match l {
        Ok(s) => match s.parse() {
            Ok(i) => i,
            Err(_) => 0
        },
        Err(_) => 0
    }).collect();

    println!("{:?}", nums)
}
```

I also had to add [collect](#) to go back to a `Vec`.

The other change you could make would be to *consume* the input vector using [into\\_iter](#) and then iterate on each value in the vector:

```
// HERE                                     V~~~~~
let nums: Vec<i64> = lines.into_iter().map(|l| match l {
```

And for good measure, you could use [ok](#), [and\\_then](#), and [unwrap\\_or](#) to say the same thing a bit more succinctly:

```
let nums: Vec<i64> = lines.into_iter().map(|l| {
    l.ok().and_then(|s| s.parse().ok()).unwrap_or(0)
}).collect();
```

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