

Before a benchmark starts executing, Go identifies ( / filters) the benchmarks.

Once benchmarks are filtered, a pointer to B is created which contains all the filtered benchmarks in a property called `benchFunc`. As the name suggests, this property contains a function to invoke each benchmark.

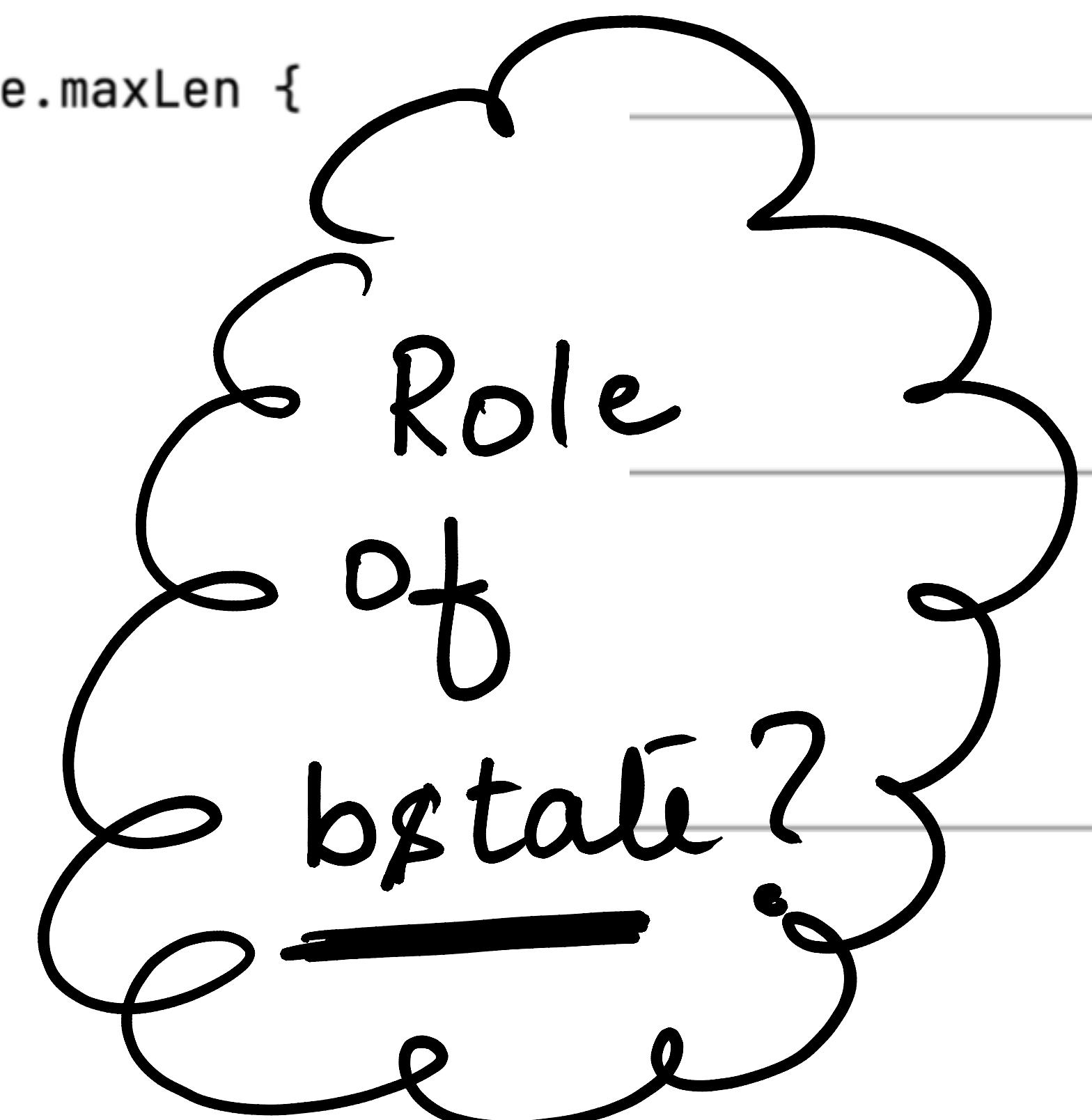
```

var bs []InternalBenchmark
for _, Benchmark := range benchmarks {
    if _, matched, _ := bstate.match.fullName(c: nil, Benchmark.Name); matched {
        bs = append(bs, Benchmark)
        benchName := benchmarkName(Benchmark.Name, maxprocs)
        if l := len(benchName) + bstate.extLen + 1; l > bstate.maxLen {
            bstate.maxLen = l
        }
    }
}
main := &B{
    common: common{
        name: "Main",
        w: os.Stdout,
        bench: true,
    },
    importPath: importPath,
    benchFunc: func(b *B) {
        for _, Benchmark := range bs {
            b.Run(Benchmark.Name, Benchmark.F)
        }
    },
    benchTime: benchTime,
    bstate: bstate,
}

```

↓ default  
benchTime  
= 1sec

↑ filter



↑ each benchmark  
will eventually  
run via benchfunc

To be able to run each  
benchmark, Go calls a function  
called runN on the pointer of B.

This means Go calls:

`main·runN(1)`

to run a single iteration on  
the runtime instance of  
benchmark (/main )

Technically, `main·runN(1)` is  
just an entry point to start  
the execution of filtered  
benchmarks via benchFunc.

```
func (b *B) runN(n int) {
    benchmarkLock.Lock()
    defer benchmarkLock.Unlock()
    ctx, cancelCtx := context.WithCancel(context.Background())
    defer func() {
        b.runCleanup(normalPanic)
        b.checkRaces()
    }()
    // Try to get a comparable environment for each run
    // by clearing garbage from previous runs.
    runtime.GC()
    b.resetRaces()
    b.N = n
    b.loop.n = 0
    b.loop.i = 0
    b.loop.done = false
    b.ctx = ctx
    b.cancelCtx = cancelCtx

    b.parallelism = 1
    b.ResetTimer()
    b.StartTimer()
    b.benchFunc(b)
    b.StopTimer()
    b.previousN = n
    b.previousDuration = b.duration
```

## The core

functionality of runN includes :

- 1) Resetting the timer
- 2) Starting the timer
- 3) Stopping the timer.
- 4) Running the benchmark function

5) Tracking previous Iterations & previousDuration.

Here, `benchFunc` is a wrapper function which iterates through all benchmark definitions & invokes `Run` for each definition

```
importPath: importPath,  
benchFunc: func(b *B) {  
    for _, Benchmark := range bs {  
        b.Run(Benchmark.Name, Benchmark.F)  
    }  
},
```

One could say, `main·runN(i)`  
is the entrypoint to run all  
filtered benchmarks.