Switch-case demonstration in TMB

Christopher L. Cahill

Quantitative Fisheries Center

Michigan State University

Switch-case flow control in TMB

```
1   DATA_INTEGER(selmode); // selectivity indicator variable
2   Type a = 100; Type b = 200;
3   switch(selmode){
4     case 0:
5       REPORT(a);
6     break;
7
8     case 1:
9       REPORT(b);
10    break;
11    ... // can have many more cases here
12    default:
13      std::cout<<"selmode not yet implemented."<<std::endl;
14    exit(EXIT_FAILURE);
15    break;
16  }
```

R code

```r
library(TMB)
compile("switch_case_demo.cpp")
```

```
[1] 0
```

```r
dyn.load(dynlib("switch_case_demo"))

data = list(selmode = 0L) # can be 0, 1, 2

parameters = list(b0 = 1) # fake value

obj <- MakeADFun(data, parameters, DLL = "switch_case_demo")
```

Toggling through switch-case options

```
obj$report()
```

```
$a
[1] 100
```

```
data$selmode = 1L
obj <- MakeADFun(data, parameters, DLL = "switch_case_demo")
obj$report()
```

```
$b
[1] 200
```

```
data$selmode = 2L
obj <- MakeADFun(data, parameters, DLL = "switch_case_demo")
obj$report()
```

```
$c
[1] 300
```

```
# not run, crashes R + TMB:
# data$selmode = 4
# obj <- MakeADFun(data, parameters, DLL = "switch_case_demo")
# obj$report()
```

That’s it that’s all =)