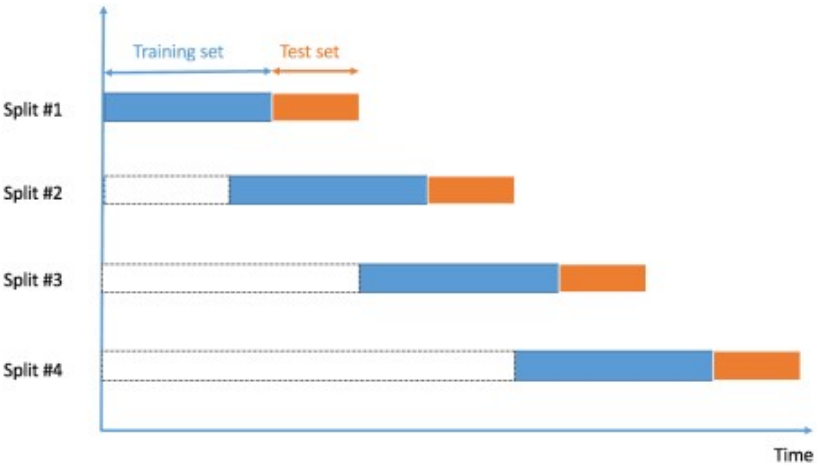
1 – Calling `crossval_ts` with option `fixed_window = TRUE`



`initial_window`is the length of the training set, depicted in blue, which is **fixed** through cross-validation iterations. `horizon` is the length of the testing set, in orange.

1 – 1 Using statistical learning functions

```
# regressors including trend
xreg <- cbind(1, 1:length(AirPassengers))

# cross validation with least squares regression
res <- crossval_ts(y=AirPassengers, x=xreg, fit_func = crossval::fit_lm,
predict_func = crossval::predict_lm,
initial_window = 10,
horizon = 3,
fixed_window = TRUE)

# print results
print(colMeans(res))
```

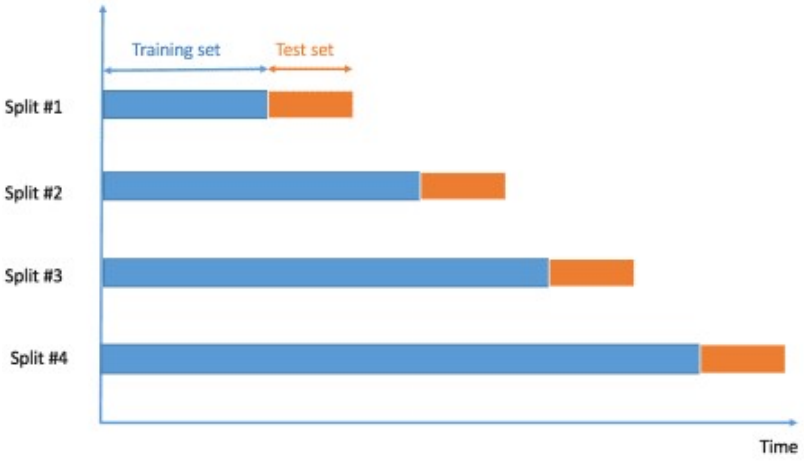
```
       ME        RMSE         MAE         MPE        MAPE
 0.16473829 71.42382836 67.01472299  0.02345201  0.22106607
```

1 – 2 Using time series functions from package `forecast`

```
res <- crossval_ts(y=AirPassengers, initial_window = 10,
        horizon = 3,
        fcast_func = forecast::thetaf,
        fixed_window = TRUE)
print(colMeans(res))
```

```
        ME         RMSE          MAE          MPE         MAPE
 2.657082195 51.427170382 46.511874693  0.003423843  0.155428590
```

2 – Calling `crossval_ts` with option `fixed_window = FALSE`



`initial_window`is the length of the training set, in blue, which **increases** through cross-validation iterations. `horizon` is the length of the testing set, depicted in orange.

2 – 1 Using statistical learning functions

```
# regressors including trend
xreg <- cbind(1, 1:length(AirPassengers))

# cross validation with least squares regression
res <- crossval_ts(y=AirPassengers, x=xreg, fit_func = crossval::fit_lm,
predict_func = crossval::predict_lm,
initial_window = 10,
horizon = 3,
fixed_window = FALSE)

# print results
print(colMeans(res))
```

```
     ME        RMSE         MAE         MPE        MAPE
11.35159629 40.54895772 36.07794747 -0.01723816  0.11825111
```

2 – 2 Using time series functions from package `forecast`

```
res <- crossval_ts(y=AirPassengers, initial_window = 10,
        horizon = 3,
        fcast_func = forecast::thetaf,
        fixed_window = FALSE)
print(colMeans(res))
```

```
       ME         RMSE          MAE          MPE         MAPE
 2.670281455 44.758106487 40.284267136  0.002183707  0.135572333 …
```