

```

PAIRWISE_ALIGNMENT(alignment)

n <- délka alignment.seq01 + 1
m <- délka alignment.seq02 + 1

score_matrix <- matice nul o rozměrech m a n
direction_matrix <- matice nul o rozměrech m a n
direction_matrix1, konec <- alignment.insert_symbol
direction_matrixkonec, 1 <- alignment.delete_symbol
direction_matrix1, 1 <- 0

pom <- 0

for i <- 1 to n
    score_matrix1, i <- pom
    pom <- pom + alignment.gap

pom <- 0

for i <- 1 to m
    score_matrixi, 1 <- pom
    pom <- pom + alignment.gap

for i <- 2 to m
    if alignment.seq02i-1 = A
        sub_seq2 <- 1
    elseif alignment.seq02i-1 = C
        sub_seq2 <- 2
    elseif alignment.seq02i-1 = G
        sub_seq2 <- 3
    elseif alignment.seq02i-1 = T

```

```

sub_seq2 <- 4
for j<-2 to n
  if alignment.seq01j-1 = A
    sub_seq1 <- 1
  elseif alignment.seq01j-1 = C
    sub_seq1 <- 2
  elseif alignment.seq01j-1 = G
    sub_seq1 <- 3
  elseif alignment.seq01j-1 = T
    sub_seq1 <- 4

  if score_matrixi-1,j-1 + alignment.scoring_matrixsub_seq1,sub_seq2 > score_matrixi,j-1 + alignment.gap a
  zároveň score_matrixi-1,j-1 + alignment.scoring_matrixsub_seq1,sub_seq2 > score_matrixi-1,j + alignment.gap
    score_matrixi,j <- score_matrixi-1,j-1 + alignment.scoring_matrixsub_seq1,sub_seq2
    direction_matrixi,j <- alignment.match_symbol
  elseif score_matrixi,j-1 + alignment.gap > score_matrixi-1,j + alignment.gap
    score_matrixi,j <- score_matrixi,j-1 + alignment.gap
    direction_matrixi,j <- alignment.insert_symbol
  else
    score_matrixi,j <- score_matrixi-1,j + alignment.gap
    direction_matrixi,j <- alignment.delete_symbol

alignment.score_matrix <- score_matrix
alignment.direction_matrix <- direction_matrix
alignment <- PAIRWISE_TRACEBACK(alignment)

```