

Solution 3:

$S3 = \{P1, P6, P1, P4\}$

$S4 = \{P5, P4, P1, P6, P7\}$

Similarity of (P4, P6) = (P5, P7) = 0.9

A(i,j)	$A(i-1,j-1) + S(x_i, j)$	$A(i-1, j) + d$	$A(i, j-1) + d$	Max of columns 2,3,4
A(P1,P5)	$0 + (-10 + 30 * 0) = -10$	$-10 + (-10) = -20$	$-10 - 10 = -20$	-10
A(P1,P4)	$-10 + (-10 + 30 * 0) = -20$	$-10 - 10 = -20$	$-20 - 10 = -30$	-20
A(P1,P1)	$-20 + (-10 + 30 * 1) = 0$	$-20 - 10 = -30$	$-30 - 10 = -40$	0
A(P1,P6)	$-30 + (-10 + 30 * 0) = -40$	$0 - 10 = -10$	$-40 - 10 = -50$	-10
A(P1,P7)	$-40 + (-10 + 30 * 0) = -50$	$-10 - 10 = -20$	$-50 - 10 = -60$	-20
A(P6,P5)	$-10 + (-10 + 30 * 0) = -20$	$-10 - 10 = -20$	$-20 - 10 = -30$	-20
A(P6,P4)	$-10 + (-10 + 30 * 0) = -20$	$-20 - 10 = -30$	$-20 - 10 = -30$	-20
A(P6,P1)	$-20 + (-10 + 30 * 0) = -30$	$-20 - 10 = -30$	$0 - 10 = -10$	-10
A(P6,P6)	$0 + (-10 + 30 * 1) = 20$	$-10 - 10 = -20$	$-10 - 10 = -20$	20
A(P6,P7)	$-10 + (-10 + 30 * 0) = -20$	$20 - 10 = 10$	$-20 - 10 = -30$	10
A(P1,P5)	$-20 + (-10 + 30 * 0) = -30$	$-30 - 10 = -40$	$-20 - 10 = -30$	-30
A(P1,P4)	$-20 + (-10 + 30 * 0) = -30$	$-30 - 10 = -40$	$-20 - 10 = -30$	-30
A(P1,P1)	$-20 + (-10 + 30 * 1) = 0$	$-30 - 10 = -40$	$-10 - 10 = -20$	0
A(P1,P6)	$-10 + (-10 + 30 * 0) = -20$	$20 - 10 = 10$	$0 - 10 = -10$	10
A(P1,P7)	$20 + (-10 + 30 * 0) = 10$	$10 - 10 = 0$	$10 - 10 = 0$	10
A(P4,P5)	$-30 + (-10 + 30 * 0) = -40$	$-40 - 10 = -50$	$-30 - 10 = -40$	-40
A(P4,P4)	$-30 + (-10 + 30 * 1) = -10$	$-40 - 10 = -50$	$-30 - 10 = -40$	-10
A(P4,P1)	$-30 + (-10 + 30 * 0) = -40$	$-10 - 10 = -20$	$0 - 10 = -10$	-10
A(P4,P6)	$0 + (-10 + 30 * 0.9) = 17$	$-10 - 10 = -20$	$10 - 10 = 0$	17
A(P4,P7)	$10 + (-10 + 30 * 0) = 0$	$17 - 10 = 7$	$10 - 10 = 0$	7

	-	P5	P4	P1	P6	P7
-	0	-10	-20	-30	-40	-50
P1	-10	-10	-20	0	-10	-20
P6	-20	-20	-20	-10	20	10
P1	-30	-30	-30	0	10	10
P4	-40	-40	-10	-10	17	7

Optimal alignment score is 20

Session similarity = optimal alignment score /length of longer session

=20/5 =4.