Global/Local Sequence Alignment Assignment

PRESENTED BY: GASSER HASSAN

SEC.: 1

B.N.: 30

Needleman-Wunsch Algorithm:

--	--	C	T	A	T	T	G	A	C	G	T	A	A	C	A	T
--	0	-3	-6	-9	-12	-15	-18	-21	-24	-27	-30	-33	-36	-39	-42	-45
C	-3	4	1	-2	-5	-8	-11	-14	-17	-20	-23	-26	-29	-32	-35	-38
T	-6	1	8	5	2	-1	-4	-7	-10	-13	-16	-19	-22	-25	-28	-31
A	-9	-2	5	12	9	6	3	0	-3	-6	-9	-12	-15	-18	-21	-24
T	-12	-5	2	9	16	13	10	7	4	1	-2	-5	-8	-11	-14	-17
T	-15	-8	-1	6	13	20	17	14	11	8	5	2	-1	-4	-7	-10
G	-18	-11	-4	3	10	17	24	21	18	15	12	9	6	3	0	-3
A	-21	-14	-7	0	7	14	21	28	25	22	19	16	13	10	7	4
A	-24	-17	-10	-3	4	11	18	25	27	24	21	23	20	17	14	11
C	-27	-20	-13	-6	1	8	15	22	29	26	23	20	22	24	21	18
A	-30	-23	-16	-9	-2	5	12	19	26	28	25	27	24	21	28	25
T	-33	-26	-19	-12	-5	2	9	16	23	25	32	29	26	23	25	32

```
CTATTGACGTAACAT     CTATTGACGTAACAT
| | | | | | |     |       | | | | | |     | | | |     | | | | | |
CTATTGA----A--CAT     CTATTG-----AACAT




CTATTGACGTAACAT     CTATTGACGTAACAT
| | | | |         |     | | | | |     | | | | | |     | | | | |
CTATT----G--AACAT     CTATTGA-----ACAT
```

Smith-Waterman Algorithm:

--	--	C	T	A	T	T	G	A	C	G	T	A	A	C	A	T
--	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C	0	4	1	0	0	0	0	0	4	1	0	0	0	4	1	0
T	0	1	8	5	4	4	1	0	1	3	5	2	0	1	3	5
A	0	0	5	12	9	6	3	5	2	0	2	9	6	3	5	2
T	0	0	4	9	16	13	10	7	4	1	4	6	8	5	2	9
T	0	0	4	6	13	20	17	14	11	8	5	3	5	7	4	6
G	0	0	1	3	10	17	24	21	18	15	12	9	6	4	6	3
A	0	0	0	5	7	14	21	28	25	22	19	16	13	10	8	5
A	0	0	0	4	4	11	18	25	27	24	21	23	20	17	14	11
C	0	4	1	1	3	8	15	22	29	26	23	20	22	24	21	18
A	0	1	2	5	2	5	12	19	26	28	25	27	24	21	28	25
T	0	0	5	2	9	6	9	16	23	25	32	29	26	23	25	32

CTATTGACGTAACAT   CTATTGACGTAACAT
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
CTATTGA----A--CAT   CTATTG-------AACAT

CTATTGACGTAACAT   CTATTGACGTAACAT
| | | | | | | | | | | | | | | | | | | | | | | | |
CTATT----G--AACAT   CTATTGA--------ACAT

CTATTG–ACGT   CTATTGA--CGT
| | | | | | | | | | | | | | | | | | | | |
CTATTGAACAT   CTATTGAACAT