

The input with 2 accepting state:

```
1 5
2 2
3 3
4 4
5 2
6 DN
7 10
8 0, N, 1
9 0, D, 2
10 1, N, 2
11 1, D, 3
12 2, N, 3
13 2, D, 4
14 3, N, 1
15 3, D, 2
16 4, D, 1
17 4, D, 2
18 NNN
```

The outcome1:

```
0, N, 1
0, D, 2
1, N, 2
1, D, 3
2, N, 3
2, D, 4
3, N, 1
3, D, 2
4, D, 1
4, D, 2
NNN
0 N 1 N 2 N 3
Accepted
- : unit = ()
(16, 00, 00) < command 0 >
```

Outcome 2 with different input to DFA:

```
utop # simulate_dfa tc5.txt
5
2
3
4
2
DN
10
0,      N,      1
0,      D,      2
1,      N,      2
1,      D,      3
2,      N,      3
2,      D,      4
3,      N,      1
3,      D,      2
4,      D,      1
4,      D,      2
N
0 N 1
Rejected
- : unit = ()
```

Invalid number of states:

```
DN
10
0,N,1
1,      N,      2
1,      D,      3
2,      N,      3
2,      D,      4
3,      N,      1
3,      D,      2
4,      D,      1
4,      D,      2
NND
Exception: Failure "Invalid argument: transition case".
```

Invalid number of accepting state:

```

( 15:07:27 ) < Command 2 >
utop # simulate_dfa "tc5.txt";;
5
3
3
4
2
DN
Exception: Failure "int_of_string".
( 15:08:25 ) < Command 3 >

```

Invalid number of symbols:

```

5
2
3
4
2
DNB
Exception: Failure "number of symbols mismatched with that of alphabet".
( 16:01:18 ) < Command 4 >

```

Invalid State:

```

utop # simulate_dfa "tc5.txt";;
5
2
3
4
2
DN
10
0,N,1
0,      D,      6
Exception: Failure "Invalid state".

```

Invalid symbol:

```

5
2
3
4
2
DN
10
0,N,1
0,      D,      2
1,      N,      2
1,      D,      3
2,      N,      3
2,      F,      4
Exception: Failure "Invalid symbol".
( 16 05 16 ) : command 7:

```

Invalid format of input:

```

( 20 05 16 ) : command 20:
utop # simulate_dfa "tc5.txt";
5
2
3
4
2
DN
10
0,      N      1
Exception: Failure "Invalid argument: transition case".
( 20 05 16 ) : command 20:

```

Meets the expected flexibility of input:

```

utop # simulate_dfa tc5.txt ;
5
2
3
4
2
DN
10
0,N,1
0,      D,2
1,      N,      2
1,      D,      3
2,      N,      3
2,      D,      4
3,      N,      1
3,D,    2
4,      D,      1
4,      D,      2
NNDDNN
0 N 1 N 2 D 4 D 1 N 2 N 3
Accepted

```

Works correctly with default input with space character:

```

utop # simulate_dfa tc1.txt ;
2
1
1
4
abc
7
1,b,1
1,a,1
0,b,0
0,a,1
1,c,0
0,,0
1, ,1
bba aca
0 b 0 b 0 a 1    1 a 1 c 0 a 1
Accepted

```

Testing the reading and parsing separately:

```
- : string list = ["D"; "N"; "N"; "N"]
-( 17:01:25 )-< command 57 >
utop # !alphabet;;
- : string list = ["D"; "N"]
-( 17:01:25 )-< command 58 >
utop # !a

Interrupted.
-( 17:01:25 )-< command 58 >
utop # !transition_cases;;
- : string list list =
[["0"; "N"; "1"]; ["0"; "D"; "2"]; ["1"; "N"; "2"]; ["1"; "D"; "3"];
["2"; "N"; "3"]; ["2"; "D"; "4"]; ["3"; "N"; "1"]; ["3"; "D"; "2"];
["4"; "D"; "1"]; ["4"; "D"; "2"]]
-( 17:01:25 )-< command 59 >
utop # !input_to_dfa;;
- : string list = ["D"; "N"; "N"; "N"]
-( 17:01:57 )-< command 60 >
utop # !alphabet;;
- : string list = ["D"; "N"]
-( 17:01:57 )-< command 61 >
```