

Outputs for Extended Needham-Schroeder Protocol

Output at Alice:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

Alice established connection with KDC
Encrypted nb is: Ht6twPp831KVgLzchEdk66KH2BC1JhZ3
n1: 8557997158742350158 n1 received: 8557997158742350158
idBob: 8019351793 idBob received:8019351793
ABKey: HxNzLAhh6uqPMtsVXQ9HBfx6
ticketToBob: l1/K9YpLUwp3mYGaZZp/SOcedj6rvOA576Kz1FR0DgOE9ITMzAK0L2h7S2MS5V797BueSuAeEBo=
n2 is: -8066832728705556799
message6decrypted: -8066832728705556800;2771073861021843231
n2-1 is: -8066832728705556800
n3 is: 2771073861021843231
n2 and n2-1 is verified at Alice. Authentication Successful!
PS E:\Network Security CS 6490\Programming Assignment\pkg> █
```

Output at Bob:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

Bob established connection with Alice!
Alice said: hey
5777806984270255859
Encrypted nb is: Ht6twPp831KVgLzchEdk66KH2BC1JhZ3
Ticket received: l1/K9YpLUwp3mYGaZZp/SOcedj6rvOA576Kz1FR0DgOE9ITMzAK0L2h7S2MS5V797BueSuAeEBo=
Encrypted n2: ZSs3NFuuQYnEs9oaemn6u04XJ0JZgLWd
ABKey: HxNzLAhh6uqPMtsVXQ9HBfx6
n2 generated is: -8066832728705556799
n3 is: 2771073861021843231
n3-1 is: 2771073861021843230
n3 and n3-1 is verified at Bob. Authentication Successful!
PS E:\Network Security CS 6490\Programming Assignment\pkg> █
```

Output at KDC:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS E:\Network Security CS 6490\Programming Assignment\pkg> & 'C:\Program Files\Eclipse Adoptium\jdk-17.0.6.10-hotspot\bin\java.exe' '-XX:+ShowCodeD
etailsInExceptionMessages' '-cp' 'C:\Users\heman\AppData\Roaming\Code\User\workspaceStorage\d35b161259cea1df3985c80662149c8e\redhat.java\jdt_ws\pkg_
f44b4f6f\bin' 'KDC'
KDC has started.
Connection established!
nb decoded is: 5777806984270255859
ABKey generated: HxNzLAhh6uqPMtsVXQ9HBfx6
ticketToBob is: l1/K9YpLUwp3mYGaZZp/SOcedj6rvOA576Kz1FR0DgOE9ITMzAK0L2h7S2MS5V797BueSuAeEBo=
ticketDetails is: 8iXjgHYKNCQwNUogBqsokop2G+DMiXmCBdi9CD9SxuMjdcRCj33YRIYgBMz2Yfm7lTuUmSY3H0Ff8D9b1he4J1wZTz7n6zModZGfBM8x8Y1PE01uF00DuddQ4IzTl66ha
Ryn8qnTqS03BjzVDKnNgUeRQoJUqYus0U1B5n1r9JjQyxcZwDzhw==
PS E:\Network Security CS 6490\Programming Assignment\pkg> █
```