Assignment 01

COMP 4981

Joshua Campbell

A00815859

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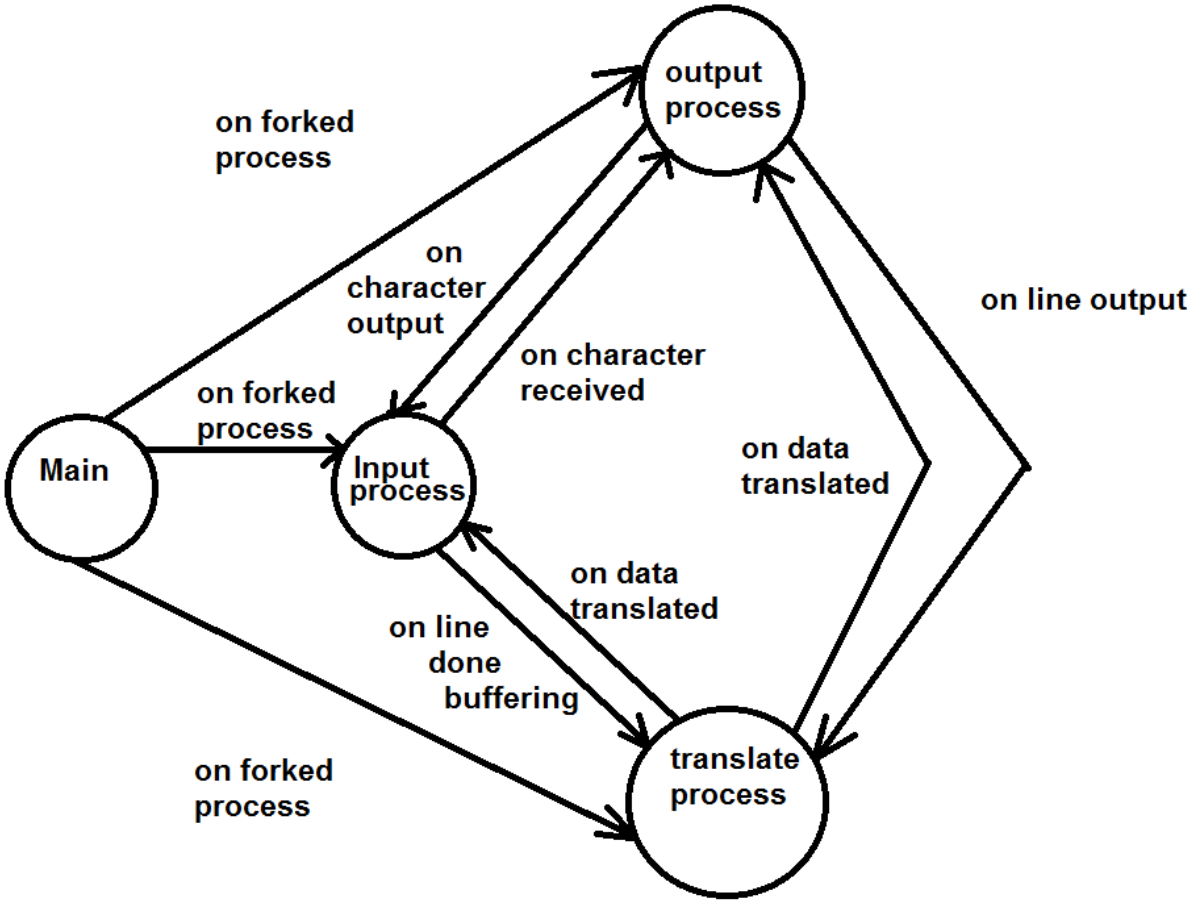
Summary:

This program allows the user to enter text. This text is displayed using an output process. This text will also be translated after a certain key is pressed. Translation includes things such as line kills, backspaces, and converting a's to z's and z's to a's. This translated data is displayed using the output process.

StateDiagram:



Pseudocode:

```
Function Main()
        turn off terminal processing
        Create Pipes 1, 2, and 3

        Fork processes
        set child process to Output

        Fork processes
        set child process to Translate
        set parent process to Input
End Function

Function Input(write pipe 1, write pipe 2)
        loop while not exit
                Get input from user
                check for special commands
                if command is end of line
                        send buffer to Translate
                else
                        stick input character in buffer

                write character to Output process

        End loop

End function

function Translate(read pipe 1, write pipe 2)
        loop while not exit
                Read data from Input buffer
                process data for line kills, backspaces, and translation characters

                send translated data to output
        end loop
end function
```

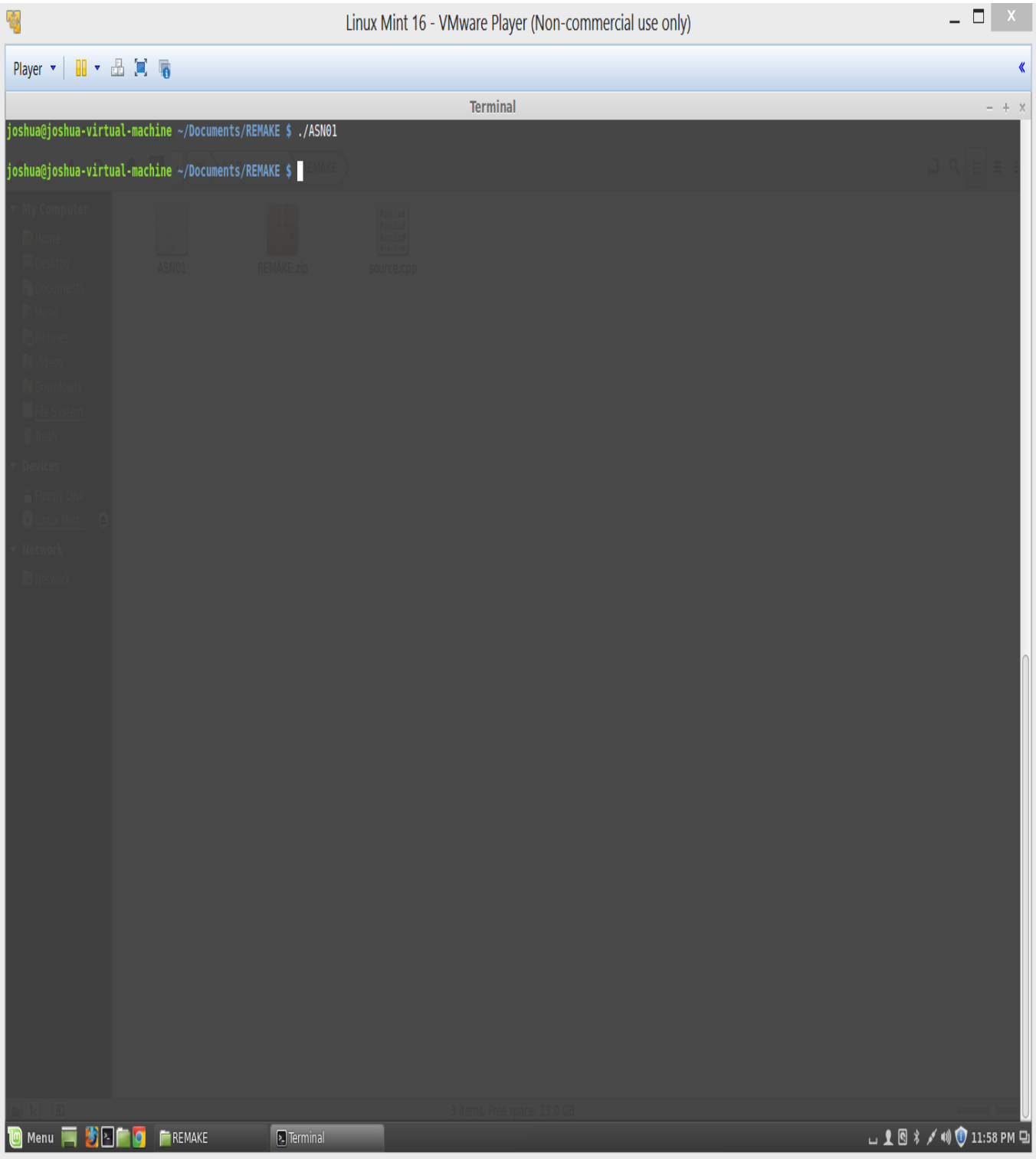
```
function Output(read pipe 1, read pipe 2)
        loop while not exit

                try to read data from input
                if read from input
                        print character

                try to read data from translate
                if read from translate
                        print translate data string
        end loop
end function
```

Testcases:

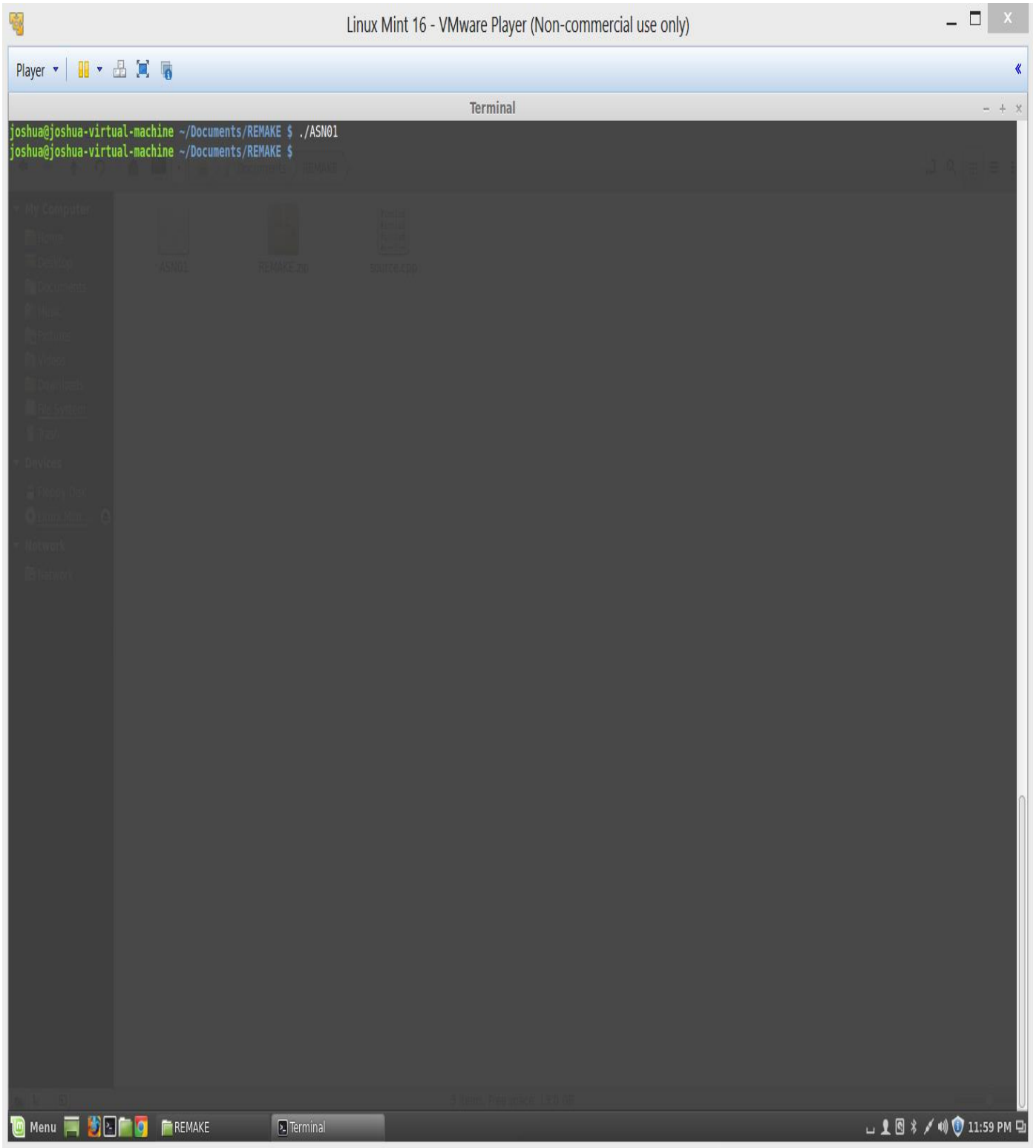
Test	Expected result	Pass/Fail
Ctrl-k exits the application	**Pass**	**Pass; See figure 1**
T terminates the program	**Pass**	**Pass; See figure 2**
Translate converts a's to z's and z's to a's	**Pass**	**Pass; See figures 3a and 3b**
Translate implements backspacing	**Pass**	**Pass; See figures 4a and 4b**
Translate implements line kill command	**Pass**	**Pass; See figures 5a and 5b**
Input text is displayed on type.	**Pass**	**Pass; See figures 3a, 4a, and 5a**

Figures:

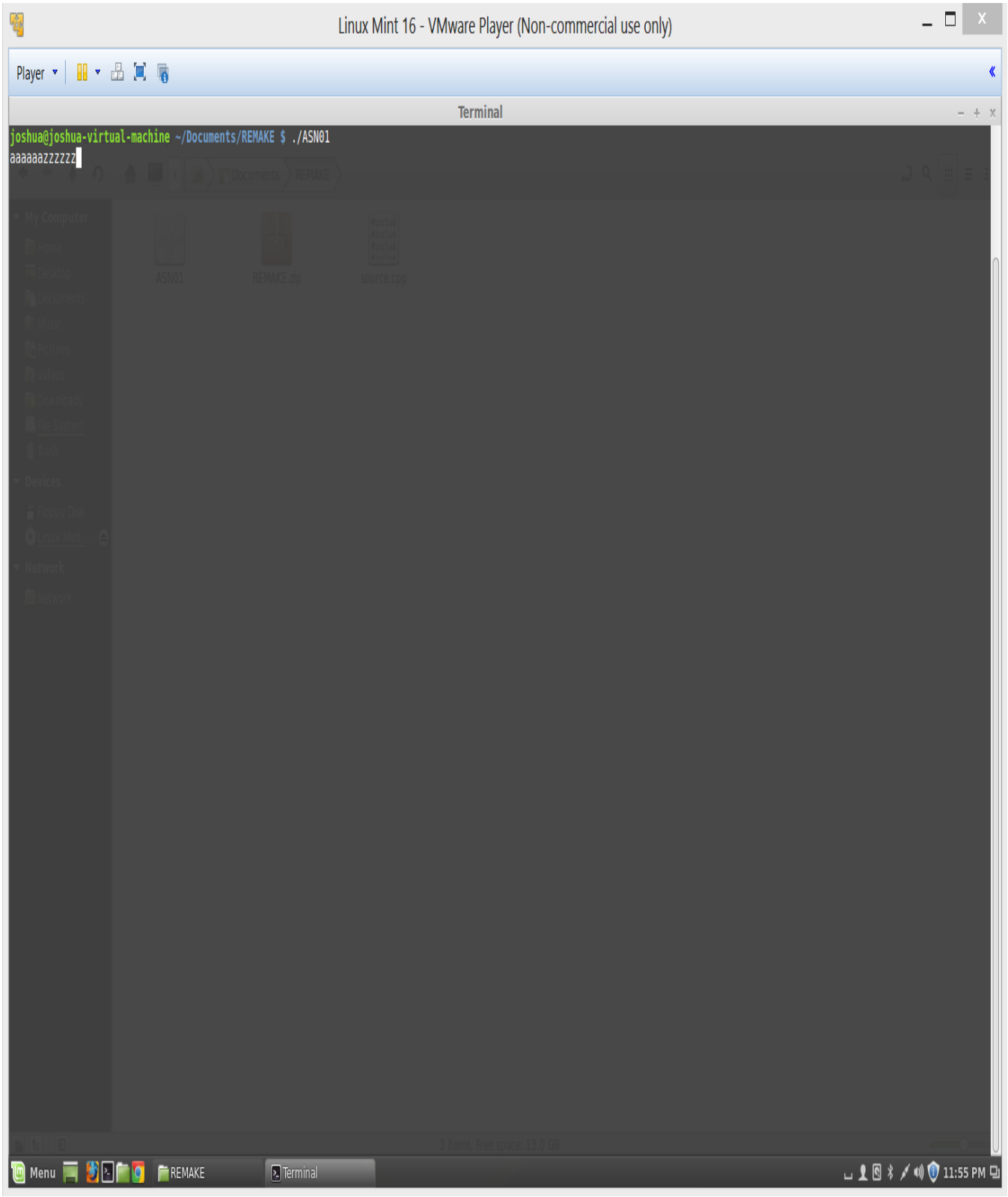
1.


Linux Mint 16 - VMware Player (Non-commercial use only)
Player
Terminal
joshua@joshua-virtual-machine ~/Documents/REMAKE $ ./ASN01
joshua@joshua-virtual-machine ~/Documents/REMAKE $
Menu
REMAKE
Terminal
11:58 PM

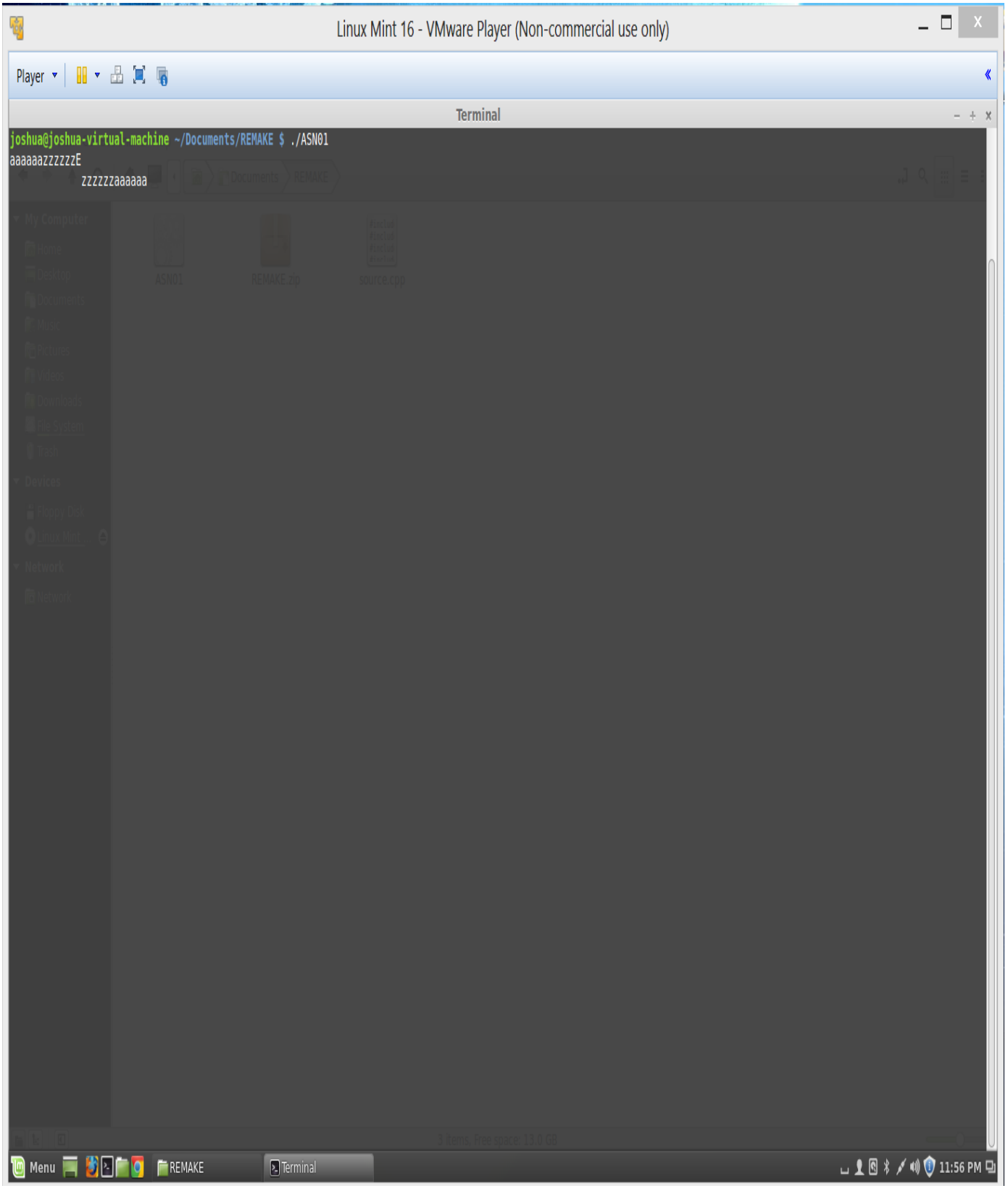
2.


Linux Mint 16 - VMware Player (Non-commercial use only)
Player
Terminal
joshua@joshua-virtual-machine ~/Documents/REMAKE $ ./ASN01
joshua@joshua-virtual-machine ~/Documents/REMAKE $
Menu
REMAKE
Terminal
11:59 PM

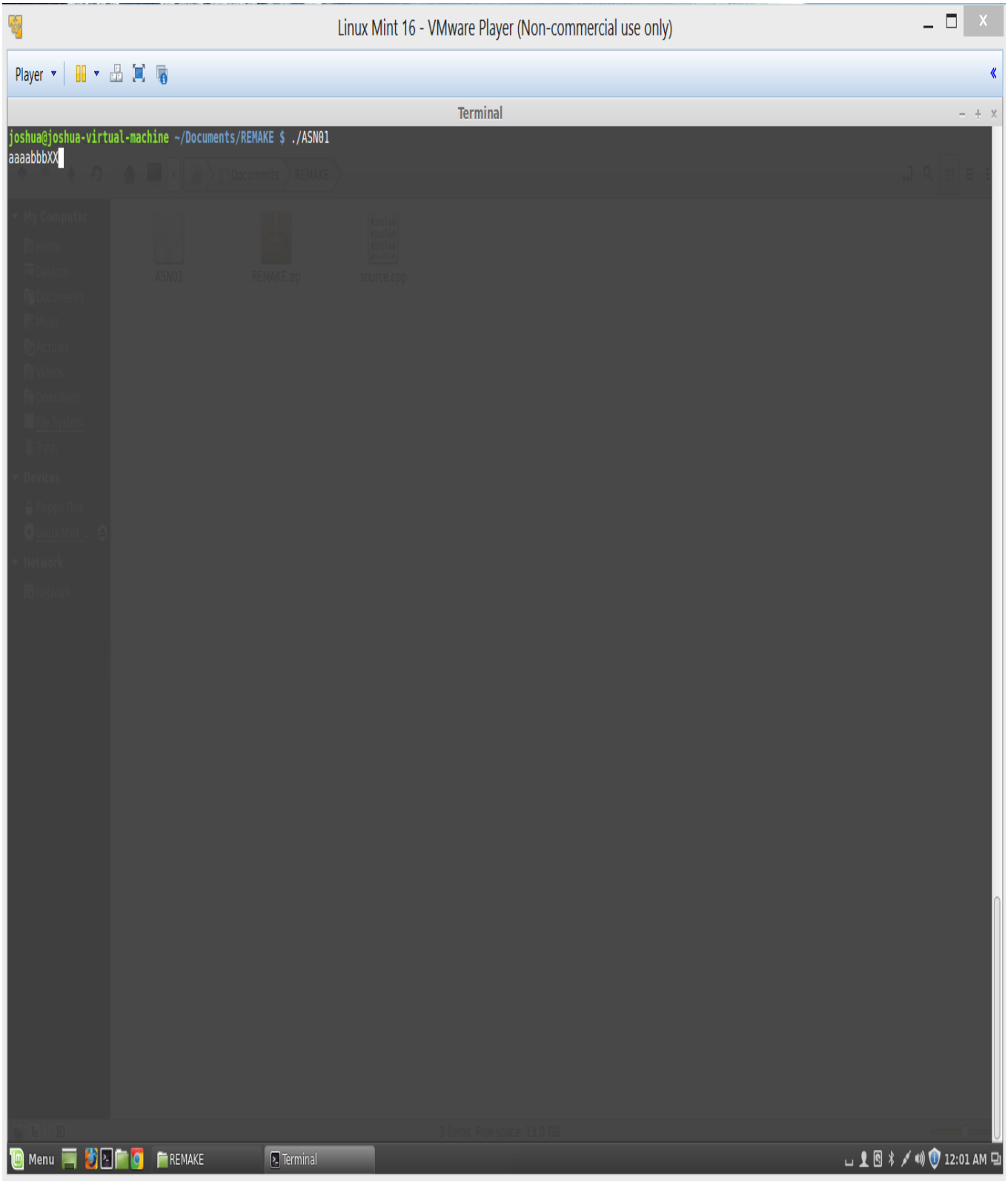
3a.


Linux Mint 16 - VMware Player (Non-commercial use only)
Player
Terminal
joshua@joshua-virtual-machine ~/Documents/REMAKE $ ./ASN01
aaaaaazzzzzz
Menu
REMAKE
Terminal
11:55 PM

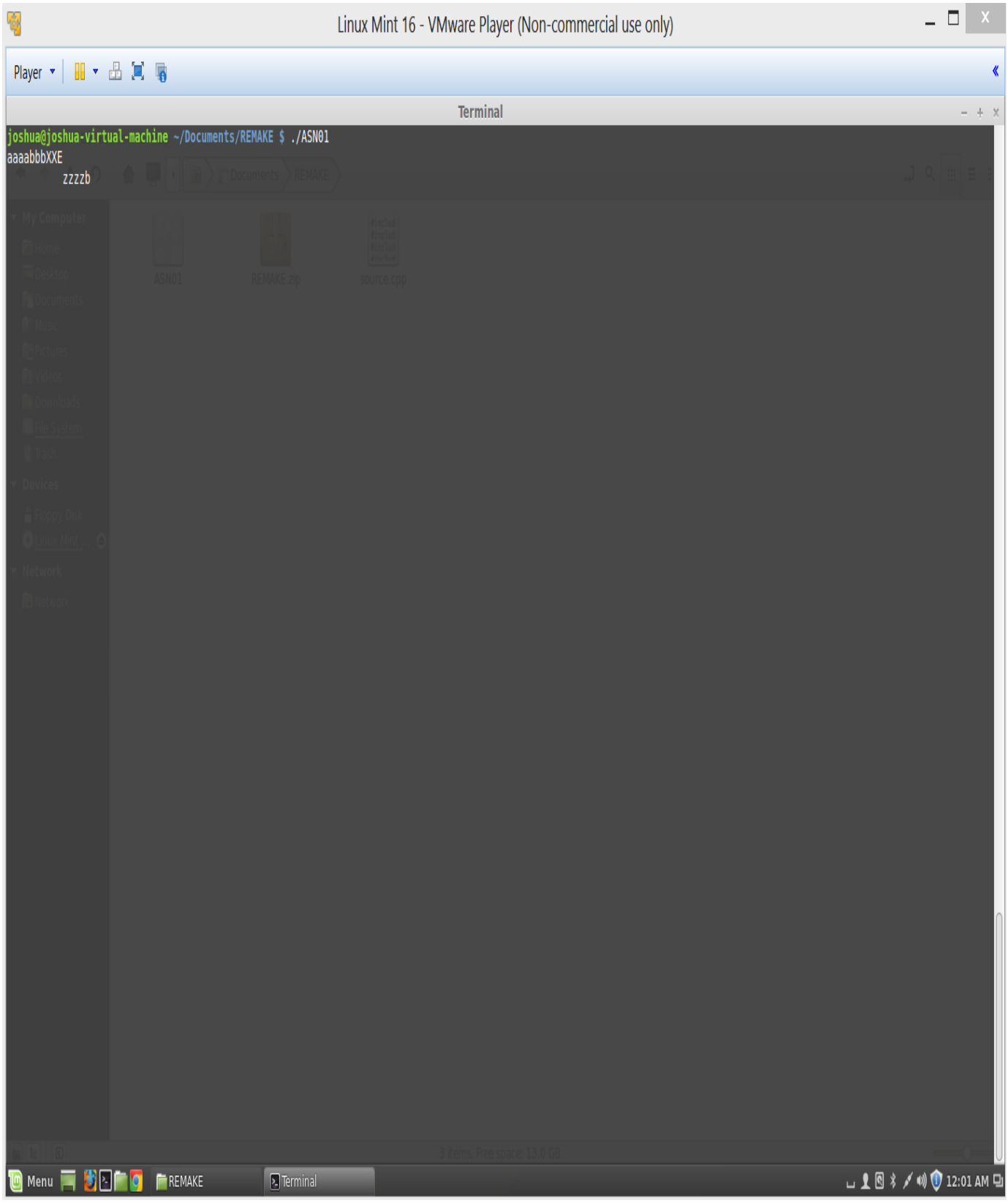
3b.


Linux Mint 16 - VMware Player (Non-commercial use only)
Player
Terminal
joshua@joshua-virtual-machine ~/Documents/REMAKE $ ./ASN01
aaaaaazzzzzE
zzzzzaaaaaa
Menu
REMAKE
Terminal
11:56 PM

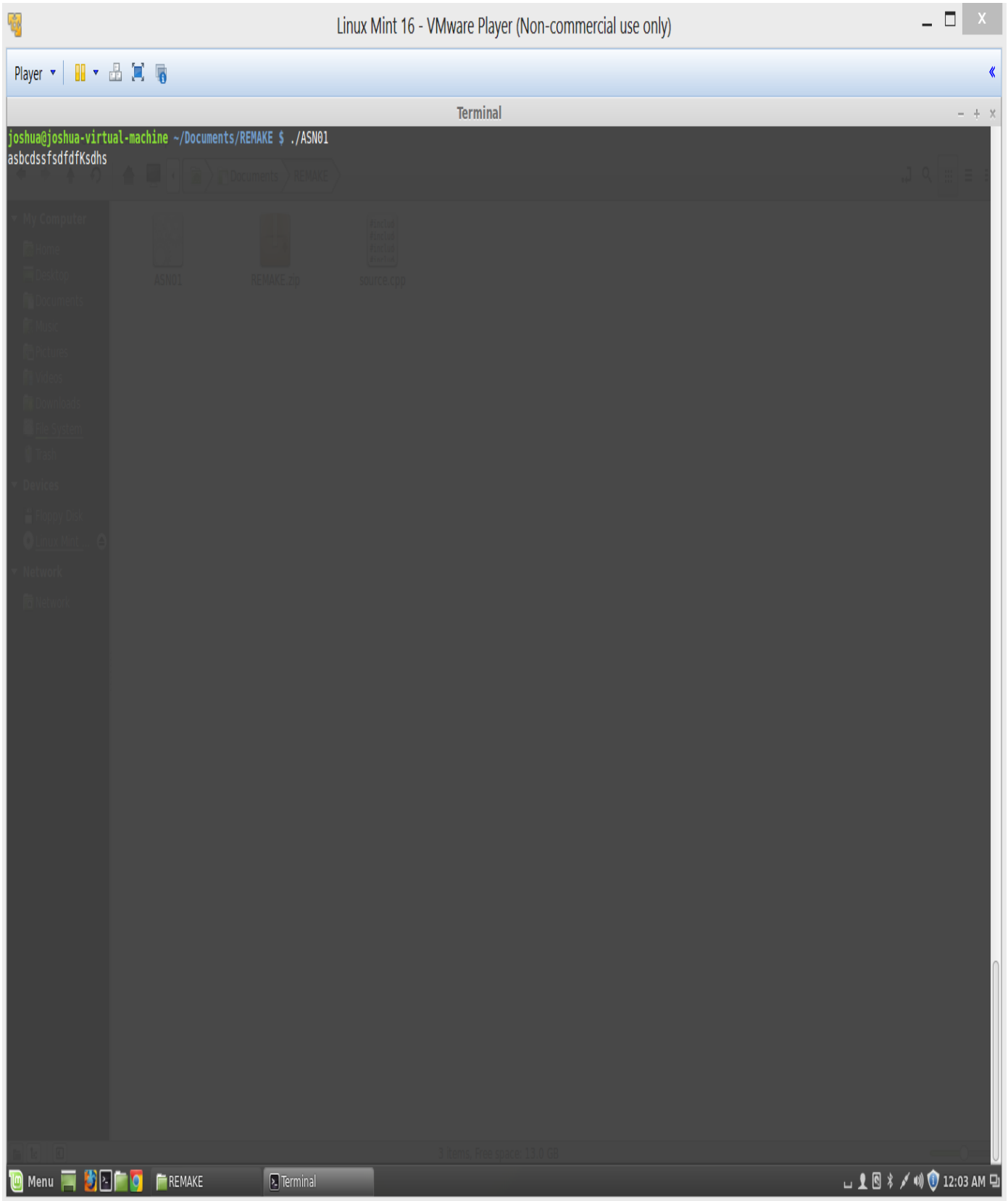
4a.


Linux Mint 16 - VMware Player (Non-commercial use only)
Player
Terminal
joshua@joshua-virtual-machine ~/Documents/REMAKE $ ./ASN01
aaaabbbXX
ASN01
REMAKE.zip
source.cpp
Menu
REMAKE
Terminal
12:01 AM

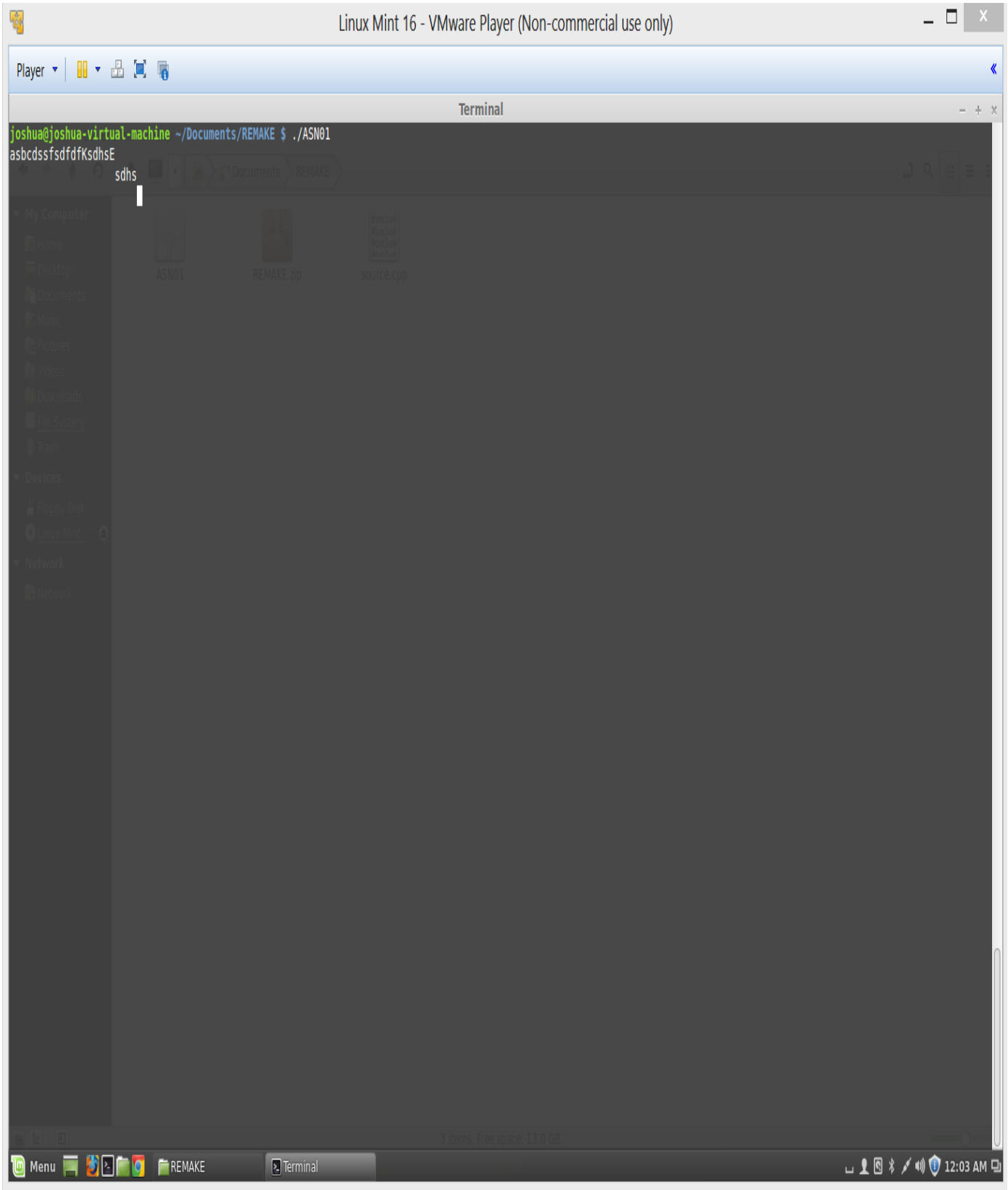
4b.


Linux Mint 16 - VMware Player (Non-commercial use only)
Player
Terminal
joshua@joshua-virtual-machine ~/Documents/REMAKE $ ./ASN01
aaaabbbXXE
zzzzb
Menu
REMAKE
Terminal
12:01 AM

5a.


Linux Mint 16 - VMware Player (Non-commercial use only)
Player
Terminal
joshua@joshua-virtual-machine ~/Documents/REMAKE $ ./ASN01
asbcdssfsdfdfKsdhs
Menu
REMAKE
Terminal
12:03 AM

5b.


Linux Mint 16 - VMware Player (Non-commercial use only)
Player
Terminal
joshua@joshua-virtual-machine ~/Documents/REMAKE $ ./ASN01
asbcdssfsdfdfKsdhsE
sdhs
Menu
REMAKE
Terminal
12:03 AM