

HW 4

1. $^a^*(ba^*ba^*)+^b^*(ab^*ab^*)+^b^*$

2. $^s^*\backslash^*(\backslash^*(?!V)|[^\wedge^*])^*\backslash^*\backslash s^*^b^*$

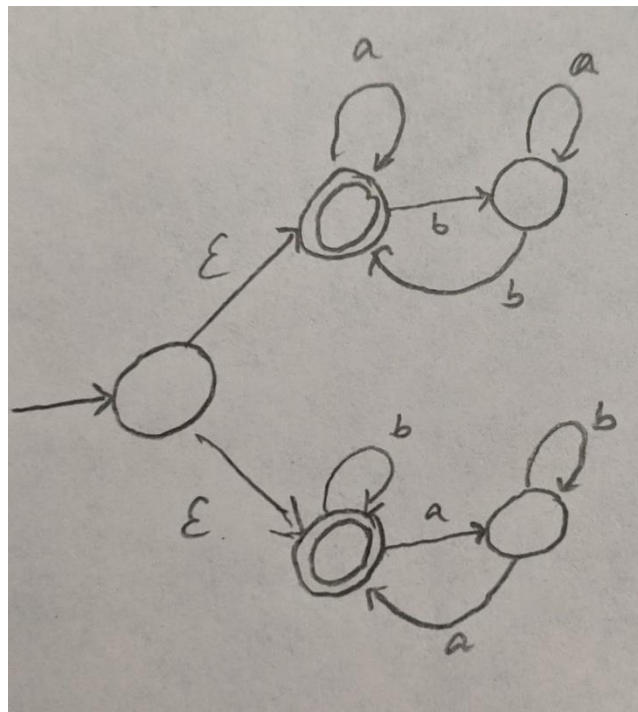
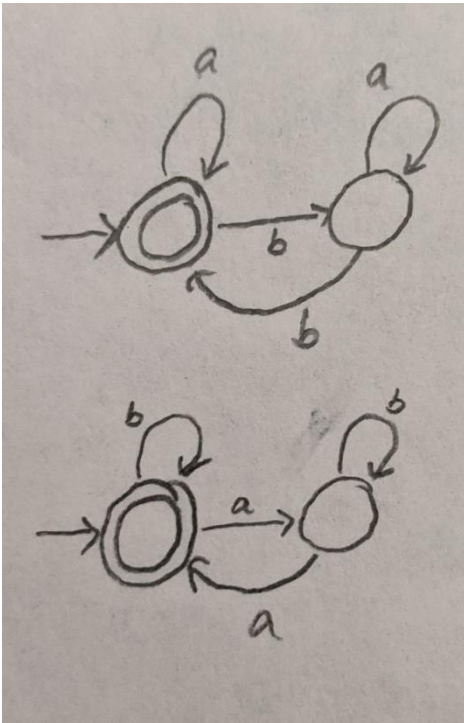
3.

```
match (RE_star RE_empty) input = Nothing
match (RE_star symbol) (head : input') =
  case match symbol (head : input') of
    Nothing -> Nothing
    ok @ (Just input') -> match (RE_star symbol) input'
```

```
match (RE_in_set []) input = Just input
match (RE_in_set (symbol : symbol')) (head : input')
  | symbol == head = match (RE_in_set (symbol : symbol')) (input')
  | otherwise = Just (head : input')
```

4. In the .hs file

5.



6. Start state = A, accept state = G

State	ϵ	X	Y	Z
A	B	C	F	
B			H	G
C	H	C	A	
F		G		G
G		C		F
H	C	H		H

State	X	Y	Z
AB	CH	CFH	G
B		CH	G
CH	CH	AB	CH
F	G		G
G	CH		F

Start state = A, accept state = G, CGH

STATE	X	Y	Z
AB	CH	CFH	G
B		CH	G
CH	CH	AB	CH
F	G		G
G	CH		F
CFH	CGH	AB	CGH
CGH	CH	AB	CFH