

$$B \rightarrow aAB$$

Question 2

a)  $\text{first}(S) = \{a, b, c, \$\}$

$$\text{follow}(S) = \{\$\}$$

$$\text{first}(A) = \{a, b, c, \epsilon\}$$

$$\text{follow}(A) = \{\$, b\}$$

$$\text{first}(B) = \{b, c\}$$

$$\text{follow}(B) = \{b\}$$

b)

	a	b	c	\$
S	$S \rightarrow A\$$	$S \rightarrow A\$$	$S \rightarrow A\$$	$S \rightarrow A\$$
A	$A \rightarrow aA$	$A \rightarrow Bb$ $A \rightarrow b$	$A \rightarrow Bb$	$A \rightarrow \epsilon$
B		$B \rightarrow bB$	$B \rightarrow cA$	

Stack	Input	Action
\$		Begin Parse
A\$	a b c a c b b \$	Rule 1: $S \rightarrow A\$$
a A\$	a b c a c b b \$	Rule 2: $A \rightarrow aA$
A\$	b c a c b b \$	Match a
Bb\$	b c a c b b \$	Rule 3: $A \rightarrow Bb$
b Bb\$	b c a c b b \$	Rule 5: $B \rightarrow bB$
Bb\$	c a c b b \$	match b
c Ab\$	c a c b b \$	Rule 6: $B \rightarrow cA$
Ab\$	a c b b \$	match c
a Ab\$	a c b b \$	Rule 2: $A \rightarrow aA$
Ab\$	c b b \$	match a
Bbb\$	c b b \$	$A \rightarrow Bb$
c Abb\$	c b b \$	Rule 6: $B \rightarrow cA$
Abb\$	b b \$	match c
bb\$	bb \$	Rule 4: $A \rightarrow E$
b\$	b \$	match b
\$	\$	match b