

## Question 1

$(?=[abc]\{4\})([abc]^*([abc]\{0,2\}(aa|cc)[abc]\{0,2\}))$

Uses positive look ahead to ensure length by checking if there is a fourth character that is in  $\{a,b,c\}$  before attempting to match the word. This makes this expression easier to change and more flexible. I don't know if we were supposed to use that if not the expression without this is,

$[abc]^*(((aa|cc)[abc]\{2\})|([abc](aa|cc)[abc])|([abc]\{2\}(aa|cc)))$

## Question 2

