Write an regular expression for this language, if possible; say why you think it's impossible otherwise

- All binary strings
Solution: (0|1)*

- All strings of a's such that the length of the string is 3+4i for i>=0
Solution: aaa(aaaa)*

- All string over {a,b} such that the substring aa occurs exactly once.
Solution: b*(ab+)*aa(b+a)b*

- All binary strings such that the number of 1s is evenly divisible by 5.
Solution: (0*10*10*10*10*1)*0*

- All strings over {a,b} with 0 or more a's followed by twice as many b's.
Solution: can't be done.

- a^n b^n, 0 <= n <= 6
Solution: |ab|aabb|aaabbb|aaaabbbb|aaaaabbbbb|aaaaaabbbbbb
(notice the leading empty string)

- All strings over {a,b} with more b's than a's.
Solution: can't be done.

- All valid Java programs.
Solution: can't be done