

**Problem type 1:**

Provide the regular expression for the following language:

(See variants below)

Assume  $\Sigma = \{0, 1\}$

a. **BYH**

All strings containing the *substring* 000

b. **BYA**

All strings containing the *subsequence* 000

c. **BYC**

All strings that do not contain the *substring* 00.

d. **BYG**

All strings that do not contain the *subsequence* 00

e. **BYF**

All strings where every run of 0's is a multiple of 2.

f. **BYE**

All strings where every run of 0's is *not* a multiple of two.

g. **BYB**

All string containing at **least** three 0's

h. **BYD**

All string containing at **most** three 0's