

NAME: Nicholas Jacob
STUDENT ID: # 113578513
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1. To examine this story, I will create a table. I will assume that a sinister lying creature always lies (even though we know this too not be true eg. politicians). So really this lays out two circumstances with two options in each.

	gurump	pvlork
Jedi	No	Yes
Jedi	Yes	No
Sith	No	Yes
Sith	Yes	No

Let's examine each with our information. For the first we see that since Jedi would tell the truth, it cannot be. You would not answer yes to a wrong question. Similarly you cannot have the second either as you will tell the truth. We move on to sith liars. If gurump means No and asked if it means yes, a liar would reply in the affirmative. This means the logic on the third one is correct. We see the fourth is also possible. Since gurump is yes and the creature lies, we would answer no or pvlork. Thus we see that Baby Yoda is a liar. We cannot however determine the meaning of gurump and pvlork.

	gurump	pvlork	Possible
Jedi	No	Yes	No
Jedi	Yes	No	No
Sith	No	Yes	Yes
Sith	Yes	No	Yes

2. I am going to state the problem here

A portfolio manager in charge of a bank portfolio has \$10 million to invest. The securities available for purchase, as well as their respective quality ratings, maturities, and yields, are shown in Table

Name	Type	QS Moody's	QS Banks	Years to M	Yield to m	After-tax yield
A	Municipal	Aa	2	9	4.3%	4.3%
B	Agency	Aa	2	15	5.4	2.7
C	Government	Aaa	1	4	5.0	2.5
D	Government	Aaa	1	3	4.4	2.2
E	Municipal	Ba	5	2	4.5	4.5

The bank places the following policy limitations on the portfolio manager's actions:

- (a) Government and agency bonds must total at least \$4 million.

- (b) The average quality of the portfolio cannot exceed 1.4 on the bank's quality scale. (Note that a low number on this scale means a high-quality bond.)
- (c) The average years to maturity of the portfolio must not exceed 5 years.

Assuming that the objective of the portfolio manager is to maximize after-tax earnings and that the tax rate is 50 percent, what bonds should he purchase? If it became possible to borrow up to \$1 million at 5.5 percent before taxes, how should his selection be changed?