

1- Which answer option is a correct statement about the following ASP program (in **Problem 1**)?

p
 $r \leftarrow \neg p, q$

- ☒ This ASP program has exactly 1 stable model.
- ☐ This ASP program is a non-definite program.
- ☐ This ASP program is NOT a positive program.
- ☐ This ASP program is unsatisfiable under propositional logic.

ASP :

$p.$

$r :- \text{not } p, q.$

Output from terminal

```
pm2_mcq1.txt:2:13-14: info: atom does not occur in any rule head:
q


Solving...
Answer: 1
p
SATISFIABLE

Models      : 1
Calls       : 1
Time        : 0.004s (Solving: 0.00s 1st Model: 0.00s Unsat: 0.00s)
CPU Time    : 0.000s
```

2. Which answer option is a correct statement about the following ASP program (in **Problem 2**)?

$p \leftarrow q$
 $q \leftarrow \neg p$

- ☒ This ASP program is an unsatisfiable program.
- ☐ This ASP program has one stable model.
- ☐ This ASP program is a positive program.

 This ASP program has no stable model but is satisfiable under propositional logic.
ASP :

$p \text{ :- } q.$

$q \text{ :- not } p.$


Output from terminal :


```
clingo version 5.6.2
Reading from pm2_mcq2.txt
Solving...
UNSATISFIABLE


Models      : 0
Calls       : 1
Time        : 0.001s (Solving: 0.00s 1st Model: 0.00s Unsat: 0.00s)
CPU Time    : 0.016s
PS C:\Users\ASUS\OneDrive\Desktop\ASU\ASU\CSE 579 - KRR> █
```


3. Which answer option is a correct statement about the following ASP program (in **Problem 3**)?

$p \leftarrow p$
 $p \vee q$

 The critical part of the propositional rule in the ASP program is the “p” in the body of the first rule.

 This ASP program has exactly 1 stable model and is satisfiable under propositional logic.

 This ASP program has exactly 2 stable models.

 This ASP program is a definite program.

ASP :
 $p \text{ :- not } p.$
 $p, q \text{ :- \#true.}$

```
clingo version 5.6.2
Reading from pm2_p3.txt
Solving...
Answer: 1
p
SATISFIABLE

Models      : 1
Calls       : 1
Time        : 0.002s (Solving: 0.00s 1st Model: 0.00s Unsat: 0.00s)
CPU Time    : 0.000s
PS C:\Users\ASUS\OneDrive\Desktop\ASU\ASU\CSE 579 - KRR> |
```