

Practical Assignment – Artificial Intelligence

By – Anshul Verma, 78065
BSc (Hons) Computer Science
Semester – 6, Part – III

5.1. Let a program be:

```
p(1).  
p(2) :- !.  
p(3).
```

Write all Prolog answer the following questions.

Ans:

(a) ?- p(X).

```
X = 1 ;  
X = 2.
```

(b) ?- p(X), p(Y).

```
X = Y, Y = 1 ;  
X = 1,  
Y = 2 ;  
X = 2,  
Y = 1 ;  
X = Y, Y = 2.
```

(c) ?- p(X), !, p(Y).

```
X = Y, Y = 1 ;  
X = 1,  
Y = 2.
```

5.2. The following relation classifies numbers into three classes: positive, zero and negative:

```
class(Number, positive) :- Number > 0.  
class(0, zero).  
class(Number, negative) :- Number < 0.
```

Define this procedure in a more efficient way using cuts.

Ans:

```
class(Number, positive) :- Number > 0, !.  
class(0, zero) :- !.  
class(Number, negative) :- Number < 0.
```