

PROLOG LAB 8

a. What does Eden like?

```
X = coffee
```

```
?- likes(eden, X).
```

b. Who likes Shila?

```
X = shekhar
```

```
?- likes(X, shila).
```

c. What is red?

```
X = roses
```

```
?- color(X, red).
```

d. Who owns gold?

```
X = luke
```

```
?- owns(X, gold).
```

e. Who is a girl?

```
X = simran
```

```
?- girl(X).
```

f. Is Shilu wealthy?

```
true
```

```
?- wealthy(shilu).
```


g. What do Pratima own?

```
false
```

```
?- owns(pratima, X).
```

PROLOG LAB 9

ADDITION

 `addition(5, 3, Result).`

Result = 8

?- `addition(5, 3, Result).`


SUBTRACTION

 `subtraction(10, 4, Result).`

Result = 6

?- `subtraction(10, 4, Result).`


MULTIPLICATION

 `multiplication(6, 7, Result).`

Result = 42

?- `multiplication(6, 7, Result).`


DIVISION

 `division(20, 5, Result).`

Result = 4

?- `division(20, 5, Result).`

MODULO

 `modulo(15, 4, Result).`

Result = 3

?- `modulo(15, 4, Result).`

PROLOG LAB 10

FACTORIAL OF 5

 `factorial(5, Result).`

Result = 120

?- `factorial(5, Result).`

FACTORIAL OF 12


 `factorial(12, Result).`

Result = 479001600

?- `factorial(12, Result).`

PROLOG LAB 11

Some conflict checks..

 `conflict(a).`


false

?- `conflict(a).`

 `conflict(b).`

true

?- `conflict(b).`

 `conflict(Which).`

Which = b

?- `conflict(Which).`

 `conflict(R1,R2,b).`

R1 = 2,

R2 = 4

?- `conflict(R1,R2,b).`

 `conflict(R1,R2,b),color(R1,C,b).`

C = blue,


R1 = 2,

R2 = 4



?- `conflict(R1,R2,b),color(R1,C,b).`

PROLOG LAB 12

Tower of Hanoi problem for 2 disks


```
 hanoi(2)
Move disk 1 from left to center
Move disk 2 from left to right
Move disk 1 from center to right
true
?- hanoi(2)
```

Tower of Hanoi problem for 2 disks

```
 hanoi(3)
Move disk 1 from left to right
Move disk 2 from left to center
Move disk 1 from right to center
Move disk 3 from left to right
Move disk 1 from center to left
Move disk 2 from center to right
Move disk 1 from left to right
true

?- hanoi(3)
```

PROLOG LAB 13


The temperature of 101 degrees Celsius to Fahrenheit.

```
 celsius_to_fahrenheit(101, Fahrenheit).
```

Fahrenheit = 213.8

```
?- celsius_to_fahrenheit(101, Fahrenheit).
```

The temperature of 89.9 degrees Celsius to Fahrenheit.

```
 celsius_to_fahrenheit(89.9, Fahrenheit).
```


Fahrenheit = 193.82

Predicate defined in line 2

```
?- celsius_to_fahrenheit(89.9, Fahrenheit).
```

PROLOG LAB 14

1. Who is the mother of Shweta?

 `mother(Mother, shweta).`

Mother = ramila

?- `mother(Mother, shweta).`

2. Who is the grandmother of Shekhar?

 `grandmother(Grandmother, shekhar).`

Grandmother = ramila

Grandmother = shila

?- `grandmother(Grandmother, shekhar).`

3. Who are the parents of James?


 `parent(Parent, james).`

Parent = roman

Parent = shila

?- `parent(Parent, james).`

4. Does Shila have a sister?

 `sibling(shila, Sister).`

false

?- `sibling(shila, Sister).`

5. Who is the uncle of Shekhar?

```
 uncle(Uncle, shekhar).
```

false

```
?- uncle(Uncle, shekhar).
```

6. Find all ancestors of Simon.

```
 ancestor(Ancestor, simon).
```

Ancestor = mani

Ancestor = anu

Ancestor = bikash

Ancestor = ramila

false

```
?- ancestor(Ancestor, simon).
```