

Roll No :	1505
Title of Program :	Prolog
Objective :	<ol style="list-style-type: none"> 1. printing 1st program 2. write a program to perform a basic arithmetic operations using prolog 3. write a program classify food item 4. write a prolog program for finding min or max number from the list

- **Printing 1st program**

Source Code:

File: prog1.pl

main :- write('This is my first prolog program').

Output:

```

GNU Prolog console
File Edit Terminal Prolog Help
GNU Prolog 1.5.0 (64 bits)
Compiled Jul  8 2021, 12:33:56 with cl
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| ?- write('welcome').
welcome

yes
| ?- change_directory('C:/Users/mcamock/Desktop/MCA_1505').

yes
| ?- change_directory('C:/Users/mcamock/Desktop/MCA_1505/AIML').

```

```

| ?- ['prog1.pl'].
compiling C:/Users/mcamock/Desktop/MCA_1505/AIML/prog1.pl for byte code...
C:/Users/mcamock/Desktop/MCA_1505/AIML/prog1.pl compiled, 0 lines read - 347 bytes written, 4 ms

yes
| ?- main.
This is my first prolog program

```

- Arithmetic Program

Source Code:

File: calc.pl

```
/* A Simple Calculator */
add(A,B) :-
    C is A+B,
    write('Addition='),
    write(C),nl.
sub(A,B) :-
    C is A-B,
    write('Subtraction='),
    write(C),nl.
mul(A,B) :-
    C is A*B,
    write('Multiplication='),
    write(C),nl.
div(A,B) :-
    C is A/B,
    write('Division='),
    write(C),nl.
```

Output:

```
compiling C:/Users/mcamock/Desktop/MCA_1505/AIIML/calc.pl for byte code...
C:/Users/mcamock/Desktop/MCA_1505/AIIML/calc.pl compiled, 16 lines read - 1949 bytes written, 5 ms

yes
| ?- add(12,13) .
Addition=25

yes
| ?- sub(23,5) .
Subtraction=18

yes
| ?- mul(2,4) .
Multiplication=8

yes
| ?- div(4,2) .
Division=2.0
```

- **Food Program**

Source Code:

File: food.pl

```
/* Define facts */
food(burger).
food(sandwich).
food(pizza).
lunch(sandwich).
dinner(pizza).

/* Define rules */
meal(X) :- food(X).
```

Output:

```
yes
| ?- ['food.pl'].
compiling C:/Users/mcamock/Desktop/MCA_1505/AI ML/food.pl for byte code...
C:/Users/mcamock/Desktop/MCA_1505/AI ML/food.pl compiled, 8 lines read - 756 bytes written, 4 ms

yes
| ?- food(pizza).

yes
| ?- meal(X),lunch(X).

X = sandwich ?

yes
| ?- dinner(sandwich).

no
| ?- lunch(burger).

no
| ?-
```

- **Find Min, Max Number**

Source Code:

File: findsum.pl

```
/* Find Sum of elements in the list */
findsum(L):-
    sum(L,S),
    write('result='),
    write(S).
sum([],0).

sum([X|Tail],S):-
    write('X:'),
    write(X),
    sum(Tail,Temp),
    S is Temp + X.

.
```

Output:

```
| ?- ['findsum.pl'].
compiling C:/Users/mcamock/Desktop/MCA_1505/AIIML/findsum.pl for byte code...
C:/Users/mcamock/Desktop/MCA_1505/AIIML/findsum.pl compiled, 11 lines read - 1096 bytes written,

yes
| ?- findsum([]).
result=0

yes
| ?- findsum([2,3,4,5]).
X:2X:3X:4X:5result=14

yes
```