

Read and Write in Prolog

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write(term) and read(term)

- ▶ Predicate write(term) causes a term to be written to the current output stream (the monitor screen by default)
- ▶ If term is uninstantiated, an underscore followed by a number unique to the variable will be output, eg, _64
- ▶ Predicate read(term) is used to read a term from the current input stream (the keyboard by default)

Read(term)

- ▶ The built in predicate read is used for reading terms from the current input stream.
- ▶ The goal read(X) will cause the next term ,T, to be read which match with X.
- ▶ If X is a variable then X will be instantiated to T.
- ▶ If matching does not succeed then the goal read(X) fails.
- ▶ The predicate read is deterministic .

Write(term)

- ▶ The built in predicate `write` is used for output terms.
- ▶ The goal `write(X)` will cause the term `X` to output on the current output file.
- ▶ `X` will be output in the same standard syntactic form in which prolog normally displays values of variables .
- ▶ A useful feature of prolog is that the write procedure 'knows' to display any term.

Additional built – in predicates

- ▶ `tab(N).`
 - ▶ This goal causes `N` spaces to be output
- ▶ `nl.`
 - ▶ This goal causes the start of a new line at output.

task

- ▶ ?- write(likes(mary, pizza)).
- ▶ ?- write(23).
- ▶ ?- write('apple').
- ▶ ?- write("apple").
- ▶ [97, 112, 112, 108, 101]

Make a facts to test goal

- ▶ Goal
- ▶ `likes(simona,X),liked(bibek,Y),write(X),write(Y).`

Read task

- ▶ ?read(X).
 - ▶ 23
- ▶ ?read(X).
 - ▶ Ram.
- ▶ ?read(X).
 - ▶ likes(ram, biscuits).

task

- ▶ `read(jane).`
 - ▶ Bob.
- ▶ `read(likes(jane, pizza)).`
 - ▶ `likes(jane, pizza)`
- ▶ `read(likes(jane, X)).`
 - ▶ `likes(jane, pizza).`

Tab and nl

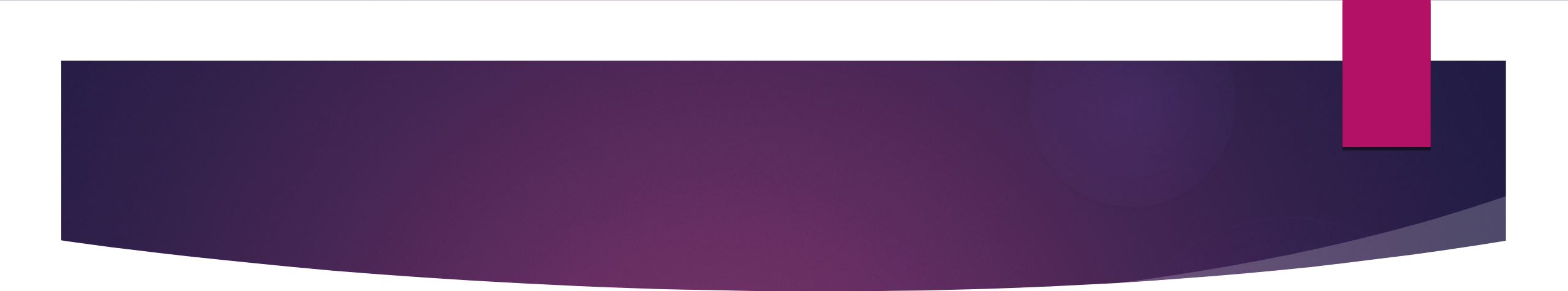
- ▶ `write(hi), tab(1), write(there),nl`
- ▶ `write(hi), tab(15), write(there),nl.`

Put

- ▶ writes the character C on the current output stream
- ▶ For example,
- ▶ ?- put(C).
- ▶ ?- put('f'), put('i'), put('d'), put('o'), nl.
- ▶ ?- put(102), put(105), put(100), put(111), nl

Get and getbyte

- ▶ read a single character from the current input stream use `get_byte(C)`, where `C` is a variable.
- ▶ The result is in the form of an integer character code in the range 0 to 255.
- ▶ ?- `get_byte(C)`
- ▶ `|: abcde`
- ▶ `C = 97`

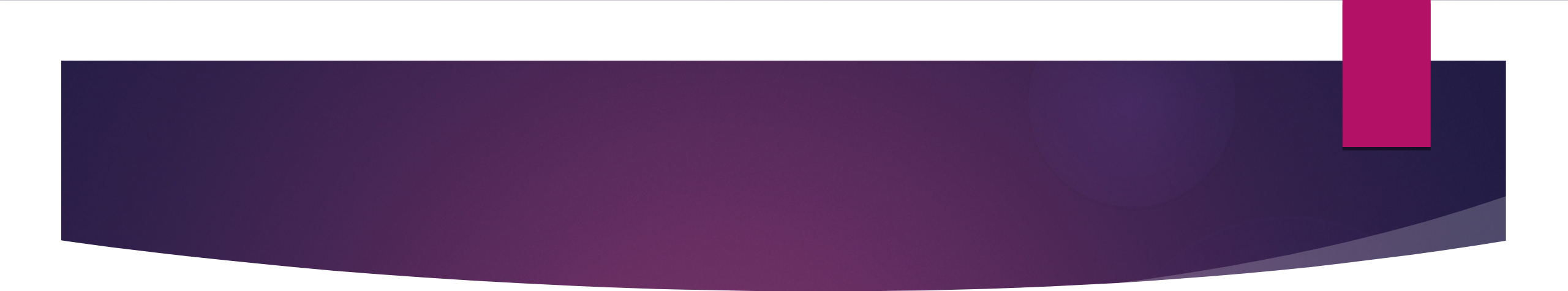
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- ▶ Facts
 - ▶ `read_a_char(C) :-`
 - ▶ `write('Type: '), flush_output,`
 - ▶ `get_byte(C).`
 - ▶ Goals
 - ▶ `?- read_a_char(X).`
 - ▶ `Type: +`
 - ▶ `X = 43`

Read and write to cube example

- ▶ Facts.
 - ▶ `cube(N ,C) :- C is N*N*N.`
- ▶ `?-cube(2 ,X).`
- ▶ `?cube(5,Y).`
- ▶ How to take input from user ?

- ▶ Facts
- ▶ `cube :- read(X), process(X).`
- ▶ `process (stop):-!.`
- ▶ `process(N) :- c is N * N* N, write(c),cube.`

- ▶ Goal
- ▶ `Cube.`

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- ▶ Facts
 - ▶ cube :-
 - ▶ write('next item,please:'),
 - ▶ read(X), process(X).
 - ▶ process (stop):-!.
 - ▶ process(N) :- c is N * N* N,
 - ▶ write('Cube of'),write(N),write('is'),
 - ▶ write(c), nl,
 - ▶ cube.

Writing a list

- ▶ Facts.
 - ▶ `writelist([]).`
 - ▶ `writelist([X | L]):-write(X),nl,writelist(L).`
- ▶ Goals
 - ▶ `writelist([1,2,3,4,5]).`

I/O in Prolog

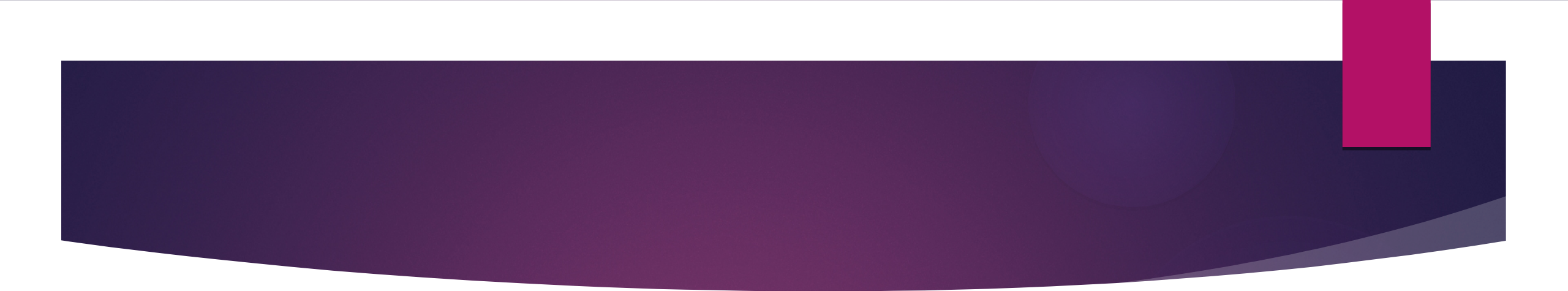
- ▶ `position('Spielberg', director).`
- ▶ `position('Allen', manager).`
- ▶ `position('Lee', supervisor).`
- ▶ `find_position:- write('Whose position do you wish to know?'),`
- ▶ `read(Input),`
- ▶ `position(Input, Output),`
- ▶ `write('The position of '),`
- ▶ `write(Input),`
- ▶ `write(' is '),`
- ▶ `write(Output),`
- ▶ `write('.').`

Goal

► ?.find_position.

Assignment

- ▶ Enter the two numbers from the user and find the greatest among them
- ▶ Write the output of
 - ▶ `put(65).`
 - ▶ `put(66).`
 - ▶ `put(67).`
 - ▶ `get0(c)`
- ▶ Suppose Ashim is Cr of classs, Sachin is programmer , Prabina is librarian and john is hacker write a prolog program to find their speciality,

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- ▶ Write a prolog program to find the position of the corresponding DWIT staff name.
 - ▶ Write a prolog program to write a list of list program [hint[[a,b,c],[d,e.f]]]