Alibek Sayak

Programming language theory

Homework #1

Questions.

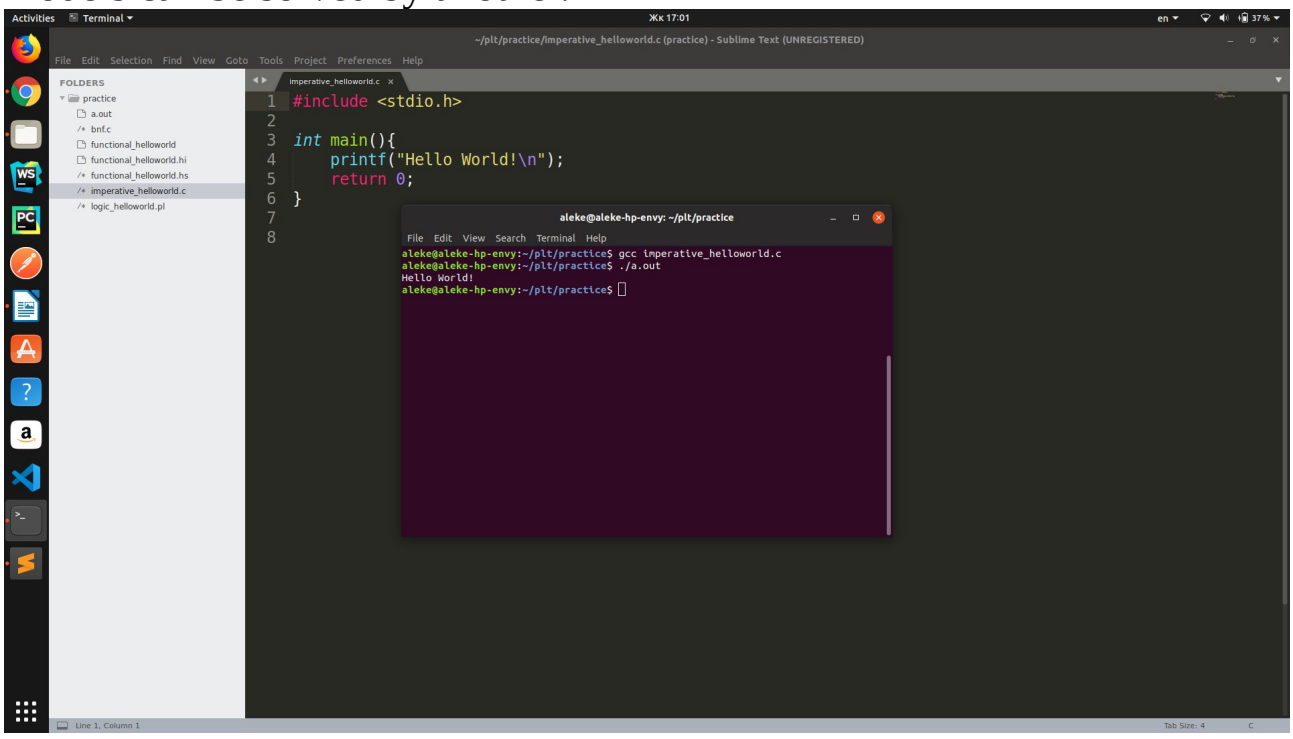
1) Computational model is the set of values and operations that helps us to solve any problems.

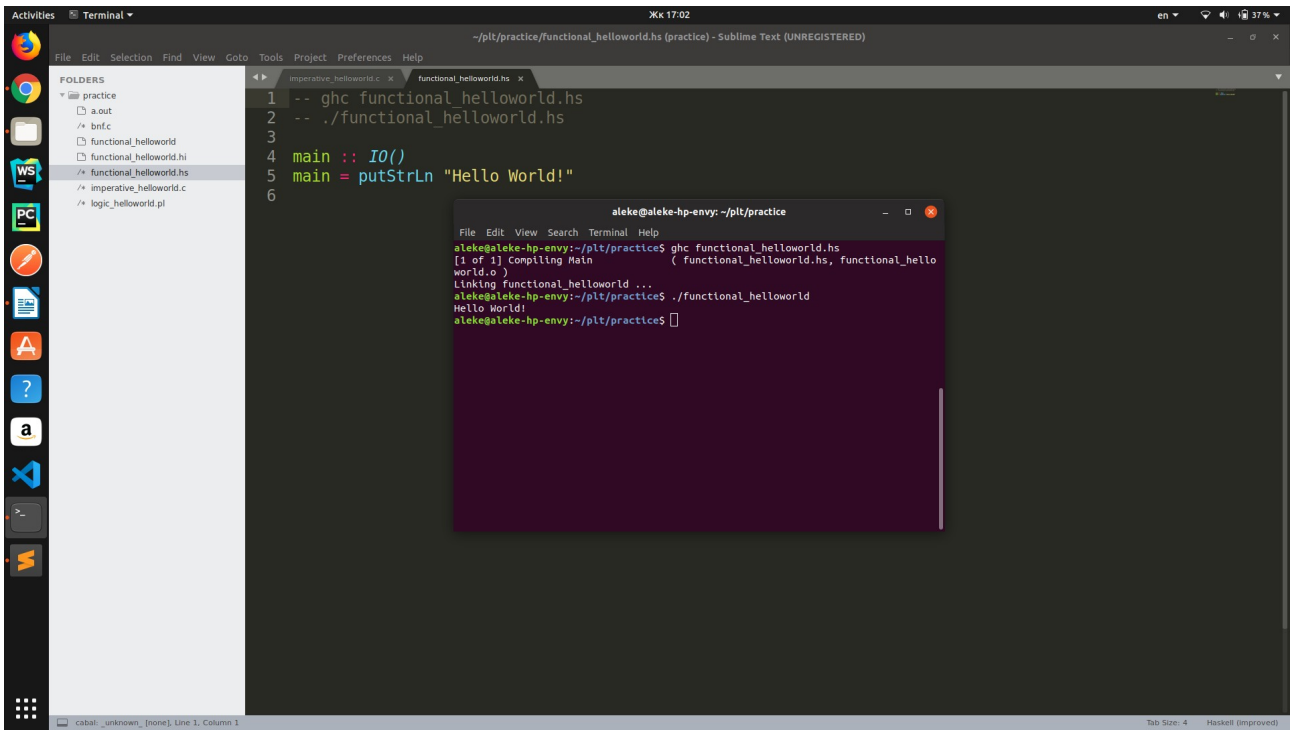
2) The most ancient computational model is imperative. Machine code, procedural languages are implementations of imperative computation model. In chronology they are oldest, so imperative computational model is also oldest.

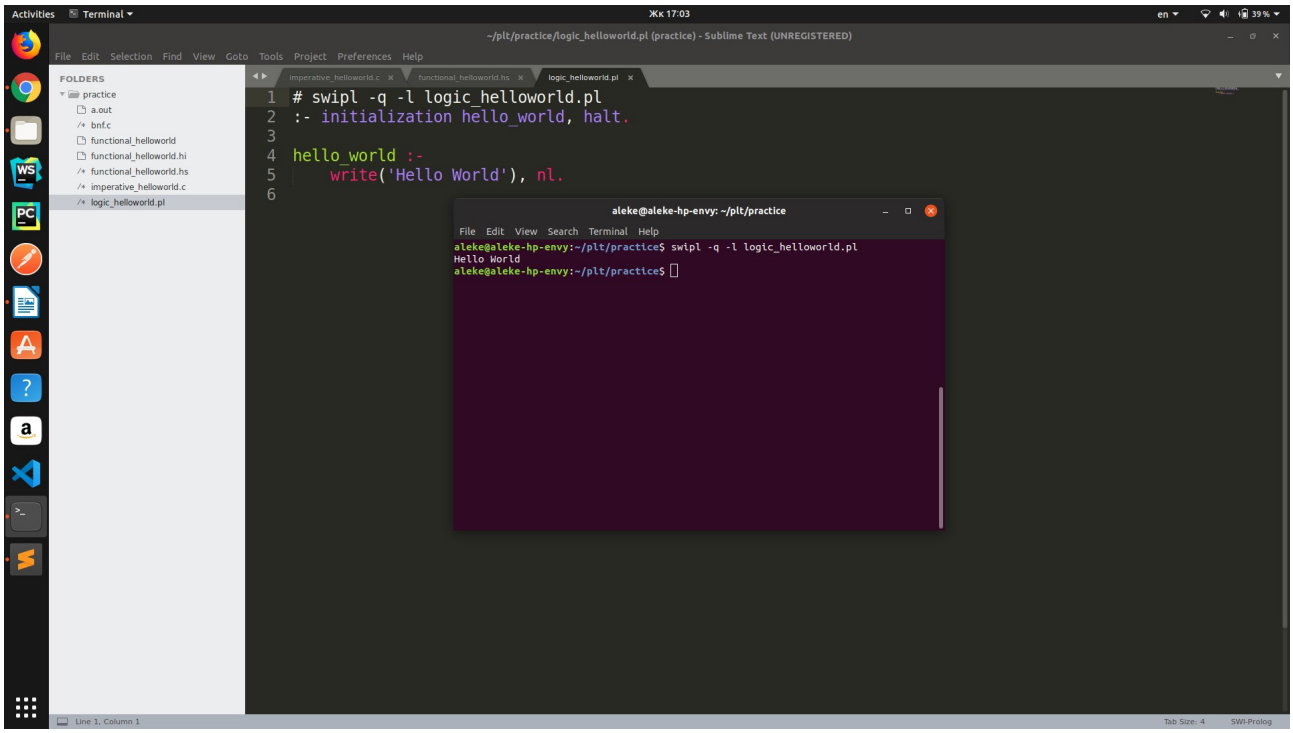
3) Programming language is implementation of any computational models that has own syntax, concepts and paradigms. Programming language notates how programs must be written.

4) Programming language consists of: syntax, expressions, operators, instructions, data types.

5) In terms of decidability, imperative, functional and logic computational models are same. Each problem that can be solved by one computation models can be solved by another.




Activities
Terminal
Ж 17:02
en
37 %
~/plt/practice/functional_helloworld.hs (practice) - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help
FOLDERS
practice
a.out
bnf.c
functional_helloworld
functional_helloworld.hi
functional_helloworld.hs
imperative_helloworld.c
logic_helloworld.pl
imperative_helloworld.c
functional_helloworld.hs
1 -- ghc functional_helloworld.hs
2 -- ./functional_helloworld.hs
3
4 main :: IO()
5 main = putStrLn "Hello World!"
6
aleke@aleke-hp-envy: ~/plt/practice
File Edit View Search Terminal Help
aleke@aleke-hp-envy:~/plt/practice$ ghc functional_helloworld.hs
[1 of 1] Compiling Main (functional_helloworld.hs, functional_hello
world.o)
Linking functional_helloworld ...
aleke@aleke-hp-envy:~/plt/practice$ ./functional_helloworld
Hello World!
aleke@aleke-hp-envy:~/plt/practice$
cabal: _unknown_ [none], Line 1, Column 1
Tab Size: 4
Haskell (improved)


Activities
Terminal
Ж 17:03
en
39 %
~/plt/practice/logic_helloworld.pl (practice) - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help
FOLDERS
practice
a.out
bnf.c
functional_helloworld
functional_helloworld.hi
functional_helloworld.hs
imperative_helloworld.c
logic_helloworld.pl
imperative_helloworld.c
functional_helloworld.hs
logic_helloworld.pl
1 # swipl -q -l logic_helloworld.pl
2 :- initialization hello_world, halt.
3
4 hello_world :-
5 write('Hello World'), nl.
6
aleke@aleke-hp-envy: ~/plt/practice
File Edit View Search Terminal Help
aleke@aleke-hp-envy:~/plt/practice$ swipl -q -l logic_helloworld.pl
Hello World
aleke@aleke-hp-envy:~/plt/practice$
Line 1, Column 1
Tab Size: 4
SWI-Prolog