

Projektna naloga

(ni imena?)

Študent:

Domen Hribernik

Denis Železnik

Merisa Mustajbašić

Datum in mesto:

12.05.2023, Maribor

Kazalo

[1. Analiza in načrtovanje jezika 1](#_Toc134710431)

[1.1. Konstrukti za opis teka 1](#_Toc134710432)

[1.2. Definicija BNF jezika 1](#_Toc134710433)

[1.3. Testni primeri 2](#_Toc134710434)

# **Analiza in načrtovanje jezika**

## Konstrukti za opis teka

* race - osnovni element celotnega teka
* path - pot, ki jo pretečejo udeleženci
* start - točka, kjer se tek začne
* finish - točka, kjer se tek konča
* checkpoint - postaja na trasi, kjer se meri čas in preverja udeleženčeva prisotnost
* food station - postaja na trasi, kjer udeleženci dobijo hrano
* water station - postaja na trasi, kjer udeleženci dobijo vodo
* medical station - postaja na trasi, kjer udeleženci dobijo zdravstveno pomoč
* toilets - postaja na trasi, kjer udeleženci lahko uporabijo stranišče

Slika, ki vsebuje besede zemljevid, besedilo, diagram, načrt

Opis je samodejno ustvarjen

Slika 1 - Primer teka

## Definicija BNF jezika

Race ::= Path name "{" Start Finsih Checkpoint Food\_station Water\_station Medical\_station Toilets "}"

Path ::= "Path {" \_Path "}"

\_Path ::= Point, \_Path | Point

Box ::= "box (" Point, Point ")"

Circle ::= "circ (" Point, number ")"

Point ::= "point (" number "," number ")"

Start ::= "start {" Point "}"

Finsih ::= "finsih {" Point "}"

Checkpoint ::= "checkpoint {" Circle "}" Checkpoint | ε

Food\_station ::= "food station {" Box "}" Food\_station | ε

Water\_station ::= "water station {" Box "}" Water\_station | ε

Medical\_station ::= "medical station {" Box "}" Medical\_station | ε

Toilets ::= "toilets {"Box "}" Toilets | ε

For ::= "for" "(" name "=" Expression ";" Condition ";" Increment ")" Statement

If ::= "if" "(" Condition ")" Statement [ "else" Statement ]

List ::= "[" Expressions "]"

Procedure ::= "procedure" name "(" Parameters ")" statements "end"

Assign ::= name "=" Expression

Parameters ::= name Parameters | ε

Statements ::= Statement Statements | ε

Statement ::= Assign | For | If | Procedure\_call

Procedure\_call ::= name "(" Arguments ")"

Arguments ::= Expressions

Expressions ::= Expression Expressions | ε

Expression ::= number | Variable | List | Procedure\_call | Operation

Increment ::= name operator | name operator Expression

Condition ::= Expression comparison\_operator Expression

Operation ::= Expression operator Expression

Variable ::= let name

comparison\_operator ::= "<" | ">" | "==" | "!=" | "<=" | ">="

operator ::= "+" | "-" | "\*" | "/" | "%" | "++" | "--"

name ::= [a-zA-Z]+

number ::= [0-9]+

## Testni primeri

Run "mariborski tek" {

let a = 10

Path {

for (i=0; i<a; i++) {

if (i % 2 == 0) {

(i, i%2)

} else {

(i, i)

}

}

}

start { point (0,0) }

finish { point (10,10) }

checkpoint { circ ( (3,3), 10) }

checkpoint { circ ( (7,7), 10) }

food station { box( (0,0), (1, 1)) }

water station { box( (9,9), (10, 10) }

medical station { box( (2,2), (3, 3) }

toilets { box( (6,6), (7, 7) }

}