program = header , namespace, {user\_defined\_type}, type “main()” “{“, code\_block, “}” ;

user\_defined\_type = “struct “ name “{“ declare\_instruction”;” “} ;” ;

header = “#include<iostream>” ;

namespace = “using namespace std;” ;

code\_block = instruction\_list, “return 0;” ;

instruction\_list = {instruction} ;

instruction = io\_instruction“;” | declare\_instruction“;” | assign\_instruction“;” | if\_instruction | while\_instruction ;

io\_instruction = input\_instruction | output\_instruction ;

input\_instruction = “cin>>”ID,{“>>”ID} ;

output\_instruction = “cout<<”ID | CONST, {“<<” ID | CONST} ;

declare\_instruction = type ID[“[“number”]”]{“,” ID[“[“number”]”]} ;

assign\_instruction = ID “=” CONST | ID {operator, CONST | ID} ;

if\_instruction = “if(“condition”) {“instruction\_list”}” ;

condition = boolean\_expression { && | ||, boolean\_expression} ;

boolean\_expresion = ID | CONST bool\_operator ID | CONST ;

while\_instruction = “while(“condition”) {“instruction\_list”}” ;

type = “int” | “char” | “float” | ‘‘void“ ;

digit = [0-9] ;

number = ^[0-9]\\.\*[0-9]\*$ ;

letter = [a-z]+ ;

ID = ^[a-z][a-z0-9]{0,7}$ ;

CONST = string | number | octal\_number | hexa\_number | binary\_number

binary\_number = "0b" digit\_binary {digit\_binary}

octal\_number = "0" digit\_octal {digit\_octal}

hexa\_number = "0x" digit\_hexa {digit\_hexa}

operator = “+” | “-“ | “/” | “\*” | “=” ;

bool\_operator = “<=” | “>=” | “<” | “>” | “!=” | “==” ;

Programs

#include<iostream>

using namespace std;

int main(){

int r;

cin>>r;

cout<<”Aria: “<< 3.14\*r\*r<<” “;

cout<<”Lungimea: “<< 2\*3.14\*r;

return 0;

}

#include<iostream>

using namespace std;

int main(){

int a,b;

cin>>a>>b;

while(a!=b) {

if(a>=b) {

a=a – b;

}

if(a<b) {

b=b -a;

}

}

cout<<a;

return 0;

}

#include<iostream>

using namespace std;

int main(){

int n, x, s;

s=0;

cin>>n;

int i;

i=1;

while(i<=n){

cin>>x;

s=s+x;

i=i+1;

}

cout<<s;

return 0;

}

#include<iostream>

using namespace std;

int main(){

int a;

3=a;

a=2

return 0;

}

#include<iostream>

using namespace std;

int main(){

int a=3;

}