NATIONAL ENGINEERING COLLEGE, K.R.NAGAR, KOVILPATTI – 628 503

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

19CS62C – PRINCIPLES OF COMPILER DESIGN [EVEN SEM 2024 – 2025]

LABORATORY EXERCISE 6 – INSTRUCTION SHEET

IMPLEMENTATION OF TYPE CHECKING

AIM:

To write a C program to implement type checking.

ALGORITHM:

1. Start the program for type checking of given expression

2. Read the expression and declaration

3. Based on the declaration part define the symbol table

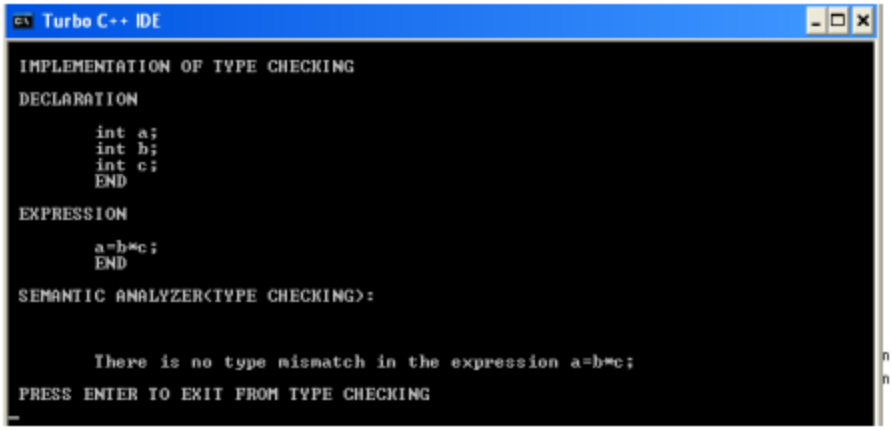
4. Check whether the symbols present in the symbol table or not. If it is found in the symbol table it displays "Label already defined".

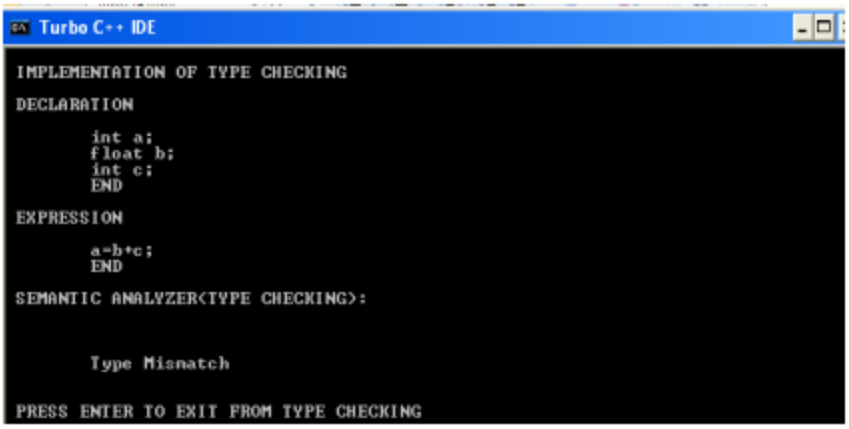
5. Read the data type of the operand 1, operand 2 and result in the symbol table.

6. If the both the operands' type are matched then check for result variable. Else, print "Type mismatch".

7. If all the data type are matched then displays "No type mismatch".

OUTPUT:


Turbo C++ IDE
IMPLEMENTATION OF TYPE CHECKING
DECLARATION
int a;
int b;
int c;
END
EXPRESSION
a=b*c;
END
SEMANTIC ANALYZER(TYPE CHECKING):
There is no type mismatch in the expression a=b*c;
PRESS ENTER TO EXIT FROM TYPE CHECKING


Turbo C++ IDE
IMPLEMENTATION OF TYPE CHECKING
DECLARATION
int a;
float b;
int c;
END
EXPRESSION
a=b+c;
END
SEMANTIC ANALYZER(TYPE CHECKING):
Type Mismatch
PRESS ENTER TO EXIT FROM TYPE CHECKING