PART B
EXPERIMENT NUMBER 10

Aim: Write a LEX-YACC specification program for 3-address intermediate code generation (ICG) and check the output with grey box probing.

<mark>(PART B: TO BE COMPLETED BY STUDENTS)</mark>

(Students must submit the soft copy as per the following segments within two hours of the practical. The soft copy must be uploaded at the end of the practical)

Roll No. 50	Name: AMEY THAKUR
Class: Comps TE B	Batch: B3
Date of Experiment: 07/02/2021	Date of Submission: 07/05/2021
Grade:	

B.1 Software Code written by a student:
(Paste your code completed during the 2 hours of practice in the lab here)

B.2 Input and Output:

B.3 Observations and learning:
(Students are expected to comment on the output obtained with clear observations and learning for each task/ subpart assigned)

In this experiment, we observed how to implement a parser using the parser generator tool.

B.4 Conclusion:
(Students must write the conclusion as per the attainment of individual outcome listed above and learning/observation noted in section B.3)

Thus, we successfully implemented the parser using the parser generator tool.

B.5 Question of Curiosity
(To be answered by a student based on the practical performed and learning/ observations)

1. Explain three sections of the Lex Program.

Ans:
- ➔ A lex program consists of three parts: the definition section, the rules section, and the user subroutines.

    ...definition section ...

```
%%

... rules section ...
%%
... user subroutines ...
```

➜ The parts are separated by lines consisting of two per cent signs. The first two parts are required, although a part may be empty. The third part and the preceding %% line may be omitted. (This structure is the same as that used by yacc, from which it was copied.)

Definition Section
➜ The definition section can include the literal block, definitions, internal table declarations, start conditions, and translations. (There is a section on each in this reference.) Lines that start with whitespace are copied verbatim to the C file. Typically this is used to include comments enclosed in "/*" and "*/", preceded by whitespace.

Rules Section
➜ The rules section contains pattern lines and C code. A line that starts with whitespace, or material enclosed in "%{" and "%}" is C code. A line that starts with anything else is a pattern line.

2. Differentiate between JAVA Compiler and YACC.
Ans:
➜ Yacc (for "yet another compiler.") is the standard parser generator for the Unix operating system. An open source program, yacc generates code for the parser in the C programming language. The acronym is usually rendered in lowercase but is occasionally seen as YACC or Yacc. The original version of yacc was written by Stephen Johnson at American Telephone and Telegraph (AT&T). Versions of yacc have since been written for use with Ada, Java and several other less well-known programming languages.