माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर (म.प्र.), भारत
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.), INDIA
Deemed to be University
(Declared under Distinct Category by Ministry of Education, Government of India)
NAAC ACCREDITED WITH A++ GRADE

A Skill Based Mini Project Report
on
Compiler Design
(230601)
Submitted by

Ayushi Jain (0901IO211015)

Submitted to

Dr. Dhananjay Bisen
Assistant Professor

Checked
15/4/24

Centre for Internet of Things

Madhav Institute of Technology & Science, Gwalior
Gole ka Mandir, Gwalior - 474005, M.P., India

Session: 2023 - 24

Madhav Institute of Technology & Science, Gwalior
(Deemed to be University)
NAAC Accredited with A++ Grade
(Declared under Distinct Category by Ministry of Education, Government of India)
Centre for Internet of Things

DECLARATION

We hereby declare that the work being presented in this skill based mini project report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in Internet of Things at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of **Dr Dhananjay Bisen**, Assistant Professor, Centre for Internet of Things.

We declare that We have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.

Ayushi

Ayushi Jain
(0901IO211015)
Centre for Internet of Things

Madhav Institute of Technology & Science, Gwalior
(Deemed to be University)
NAAC Accredited with A++ Grade
(Declared under Distinct Category by Ministry of Education, Government of India)
Centre for Internet of Things

CERTIFICATE

This is certified that Ayushi Jain (0901IO211015) have submitted the skill based mini project report under the mentorship of Dr Dhananjay Bisen, in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Internet of Things from Madhav Institute of Technology and Science, Gwalior.

Dr. Dhananjay Bisen
Assistant Professor
Centre for Internet of Things

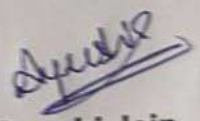
Madhav Institute of Technology & Science, Gwalior
(Deemed to be University)
NAAC Accredited with A++ Grade
(Declared under Distinct Category by Ministry of Education, Government of India)
Centre for Internet of Things

ACKNOWLEDGEMENT

The full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology & Science** to allow me to continue my disciplinary/interdisciplinary project as a curriculum requirement, under the provisions of the Flexible Curriculum Scheme approved by the Academic Council of the institute. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Centre for Internet of Things,** for allowing me to explore this project. I humbly thank **Dr. Praveen Bansal**, Assistant Professor and Coordinator, Centre for Internet of Things, for his continued support during the course of this engagement, which eased the process and formalities involved.

I am sincerely thankful to my faculty mentors. I am grateful to the guidance of Dr. **Dhananjay Bisen**, Assistant Professor, and Centre for Internet of Things, for his continued support and guidance throughout the project. I am also very thankful to the faculty and staff of the department.



Ayushi Jain
(0901IO211015)
Centre for Internet of Things

Program : 2

Aim : Design a YACC analyzer to recognize string with grammar {anbn | n>=0} and

{ anb | n>=5}..

Source Code for grammar {anbn | n>=0}:

```
%{
#include <stdio.h>
int a_count = 0;
int b_count = 0;
%}
%token A B
%%
anb_n: /* empty */
 | anb_n A {a_count++;}
 | anb_n B {b_count++;}
 ;
anb_5: A A A A A anb_n {printf("Valid string\nPulkit Kumar\n0901IT201045\n");}
 ;
%%
int main() {
 printf("Enter a string: ");
 yyparse();
```

```
 return 0;
}
int yyerror(char* s) {
 printf("Error: %s\n", s);
 return 0;
}
int yylex() {
 int c = getchar();
 if (c == 'a' || c == 'A') {
 return A;
 }
 else if (c == 'b' || c == 'B') {
 return B;
 }
 else if (c == EOF) {
 return 0;
 }
 else {
 yyerror("Invalid character");
 return -1;
 }
}
```

Output:

Source Code for grammar {anb | n>=5}:

```
%{
#include<stdio.h>
#include<stdlib.h>
%}
%token A B NL
%%
stmt: A A A A A S B NL {printf("valid string\n");
 exit(0);}
;
S: S A
|
;
%%
int yyerror(char *msg)
{
printf("invalid string\n");
exit(0);
}
//driver code
main()
{
printf("enter the string\n");
```

```
yyparse();
}
```

Output:

```
enter the string
AABBA
invalid string
```

```
Pulkit Kumar
0901IT201045
enter the string
AAAAASB
valid string
```