

## ACD Lab 3

**By: Chikkeri Chinmaya (211IT017)**

### Question 1:

```
%{  
#include <stdio.h>  
#include<string.h>  
int cntA = 0;  
int cntR = 0;  
%}  
  
%%  
[a-zA-Z]+    printf("I ");  
[01]*        {  
    int ones = 0;  
    int zeroes = 0;  
    for (int i = 0; i < strlen(yytext); i++) {  
        if (yytext[i] == '1') {  
            ones++;  
        } else {  
            zeroes++;  
        }  
    }  
    if (ones % 2 == 1 && zeroes % 2 == 0) {  
        printf("A ");  
        cntA++;  
    }  
    else {  
        printf("R ");  
        cntR++;  
    }  
}
```

```

    }

}

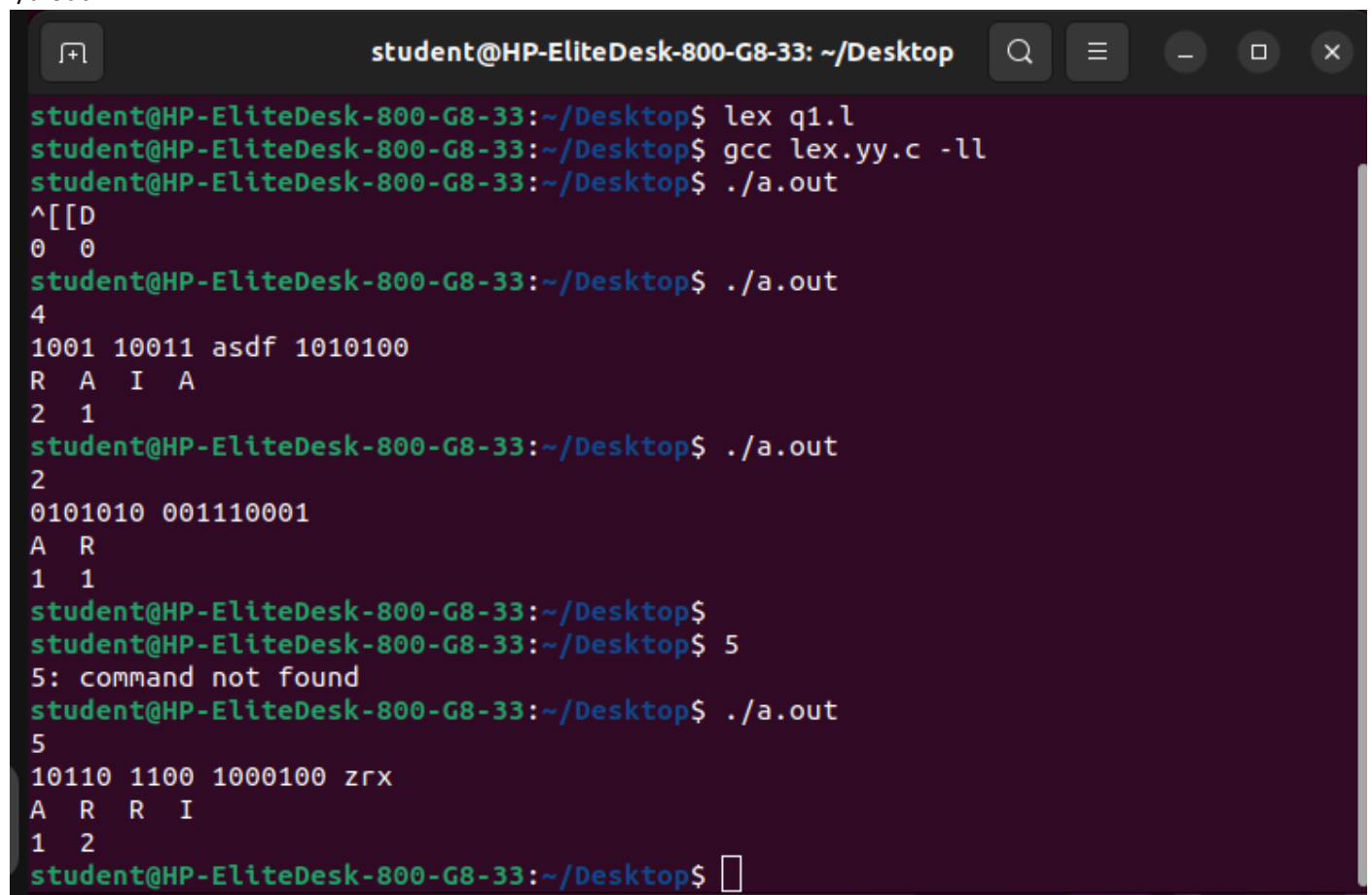
%%

int main() {
    int n;
    scanf("%d", &n);
    getchar();
    for (int i = 0; i < n; i++) {
        yylex();
    }

    printf("%d %d\n", cntA, cntR);
    return 0;
}

```

./a.out



```

student@HP-EliteDesk-800-G8-33: ~/Desktop
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex q1.l
student@HP-EliteDesk-800-G8-33:~/Desktop$ gcc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
^[[D
0 0
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
4
1001 10011 asdf 1010100
R A I A
2 1
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
2
0101010 001110001
A R
1 1
student@HP-EliteDesk-800-G8-33:~/Desktop$
student@HP-EliteDesk-800-G8-33:~/Desktop$ 5
5: command not found
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
5
10110 1100 1000100 zrx
A R R I
1 2
student@HP-EliteDesk-800-G8-33:~/Desktop$ 

```

Question 2:

```

% {
#include <stdio.h>
#include <string.h>
int min=100;
% }

%%

[a-b]+ {
int valid = 1;
int alternating = 1;
int len = strlen(yytext);
for (int i = 0; i < len; i++) {
if (yytext[i] != 'a' && yytext[i] != 'b') {
valid = 0;
break;
}
if (i > 0 && yytext[i] == yytext[i-1]) {
alternating = 0;
break;
}
}
if (valid && alternating) {
printf("Valid ");
} else if (valid) {
printf("Invalid ");
} else {
printf("-1 ");
return 0;
}
if (valid) {

```

```

// printf("%d\n", len);
if(len<=min)
min=len;
} else {
printf("\n");
}
}
[ \t\r\n]+ { }
. { printf("-1\n");
return 0; }

```

%%

```

int main() {
yylex();
printf("\n%d\n",min);
return 0;
}

```

```

student@HP-EliteDesk-800-G8-33: ~/Desktop
student@HP-EliteDesk-800-G8-33:~/Desktop$ lex q2.l
student@HP-EliteDesk-800-G8-33:~/Desktop$ gcc lex.yy.c -ll
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
abaaba baba ababa ababaa
Invalid Valid Valid Invalid
4
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
bba abaaa abbab babab ababababab
Invalid Invalid Invalid Valid Invalid
3
student@HP-EliteDesk-800-G8-33:~/Desktop$ ./a.out
10110
-1

```