NAME = DEVYANSH SAINI

SECTION = A

ROLL NO. = 26

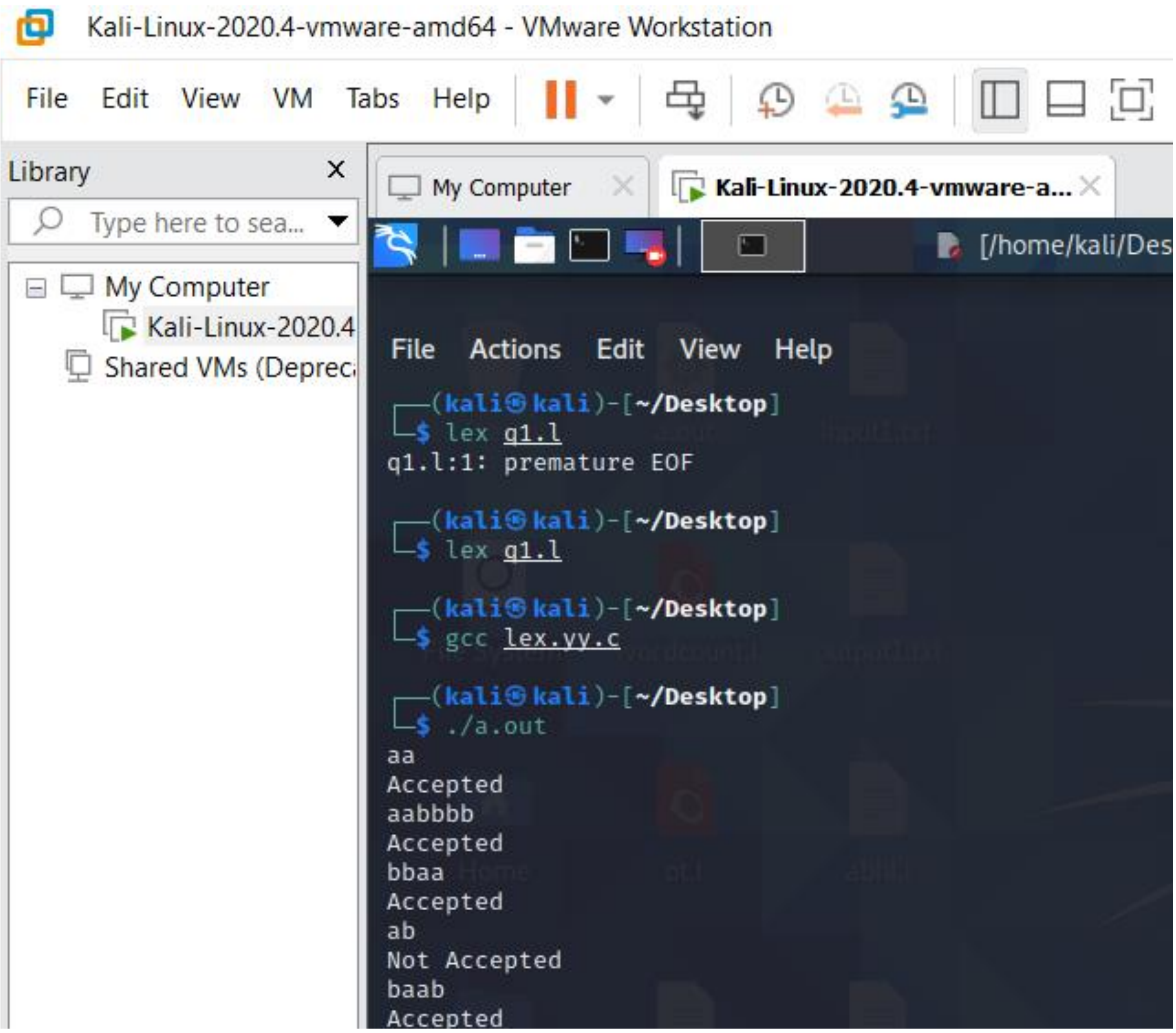
UNIVERSITY ROLL NO. = 2013308

Program 1.

```
%{
%}


%s A B


%%
<INITIAL>b BEGIN INITIAL;
<INITIAL>a BEGIN A;
<INITIAL>[^a|\n] BEGIN B;
<INITIAL>\n BEGIN INITIAL; printf("Accepted\n");
<A>b BEGIN A;
<A>a BEGIN INITIAL;
<A>[^a|\n] BEGIN B;
<A>\n BEGIN INITIAL; printf("Not Accepted\n");
<B>a BEGIN B;
<B>b BEGIN B;
<B>\N {BEGIN INITIAL; printf("INVALID\n");}
%%


int yywra()
```

```
{
return 1;
}
void main()
{
yylex();
}
```

Output


Kali-Linux-2020.4-vmware-amd64 - VMware Workstation
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Library
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Kali-Linux-2020.4
Shared VMs (Deprec
My Computer
Kali-Linux-2020.4-vmware-a...
[/home/kali/Des
File Actions Edit View Help

```
┌──(kali㉿kali)-[~/Desktop]
└─$ lex q1.l
q1.l:1: premature EOF

┌──(kali㉿kali)-[~/Desktop]
└─$ lex q1.l

┌──(kali㉿kali)-[~/Desktop]
└─$ gcc lex.yy.c

┌──(kali㉿kali)-[~/Desktop]
└─$ ./a.out
aa
Accepted
aabbbb
Accepted
bbaa
Accepted
ab
Not Accepted
baab
Accepted
```

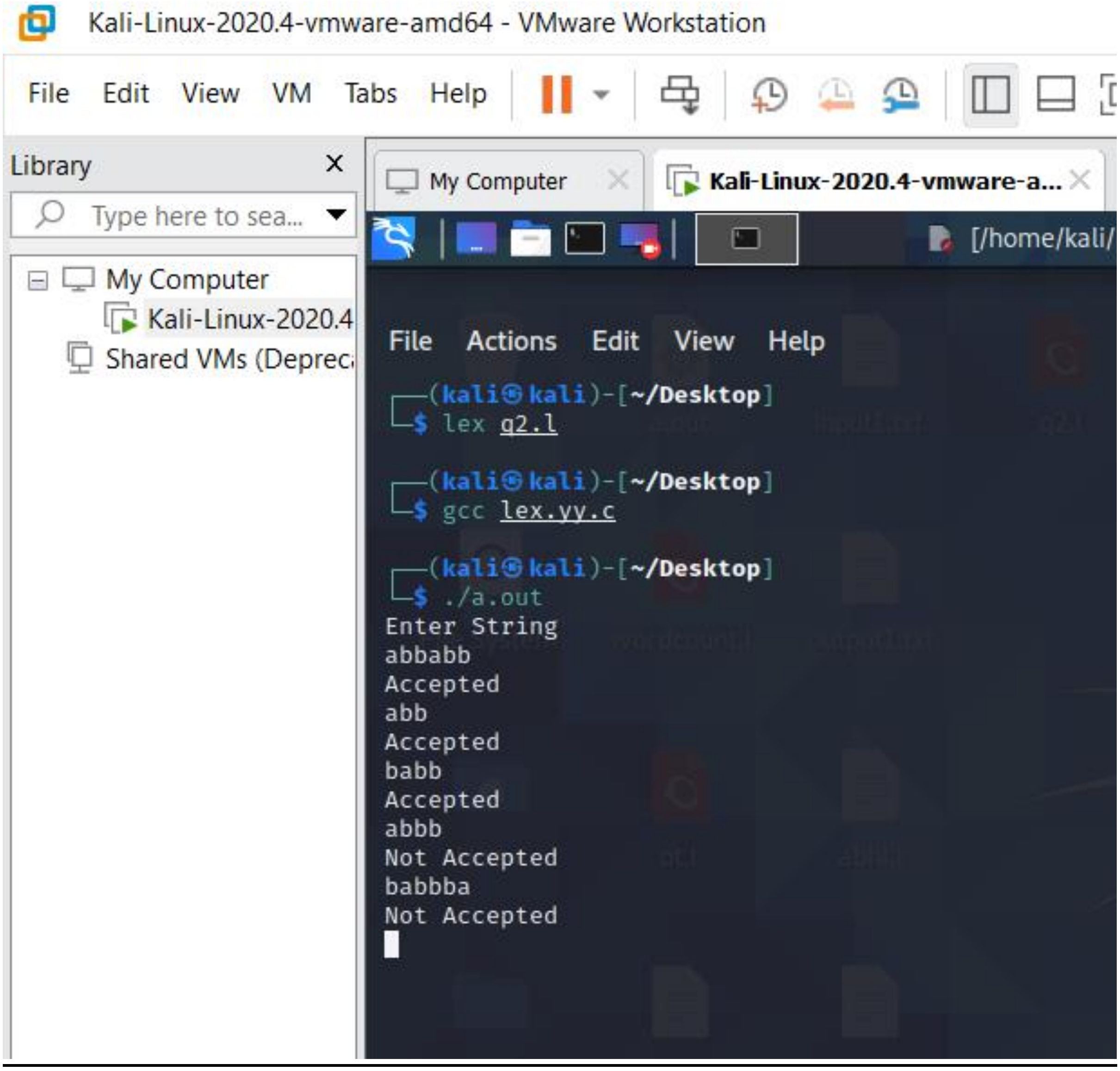
Program 2.

```
%{
%}

%s A B C D E F G DEAD

%%
<INITIAL>a BEGIN A;
<INITIAL>b BEGIN INITIAL;
<INITIAL>[^ab\n] BEGIN DEAD;
<INITIAL>\n BEGIN INITIAL;{printf("Not Accepted\n");}

<A>b BEGIN E;
<A>a BEGIN B;
<A>b[^ab\n] BEGIN DEAD;
<A>\n BEGIN INITIAL;{printf("Not Accepted\n");}

<B>b BEGIN G;
<B>a BEGIN C;
<B>b[^ab\n] BEGIN DEAD;
<B>\n BEGIN INITIAL;{printf("Not Accepted\n");}
```

```
<C>a BEGIN C;
<C>b BEGIN G;
<C>[^ab\n] BEGIN DEAD;
<C>\n BEGIN INITIAL;{printf("Accepted\n");}

<D>a BEGIN A;
<D>b BEGIN INITIAL;
<D>[^ab\n] BEGIN DEAD;
<D>\n BEGIN INITIAL;{printf("Accepted\n");}

<E>a BEGIN F;
<E>b BEGIN D;
<E>[^ab\n] BEGIN DEAD;
<E>\n BEGIN INITIAL;{printf("Not Accepted\n");}

<F>a BEGIN B;
<F>b BEGIN E;
<F>[^ab\n] BEGIN DEAD;
<F>\n BEGIN INITIAL;{printf("Accepted\n");}

<G>a BEGIN F;
<G>b BEGIN D;
<G>[^ab\n] BEGIN DEAD;
```

```
<G>\n BEGIN INITIAL;{printf("Accepted\n");}



<DEAD>[^\n] BEGIN DEAD;
<DEAD>\n BEGIN INITIAL;{printf("Invalid\n");}

%%
int yywrap()
{
	return 0;
}

int main()
{
	printf("Enter String\n");
	yylex();
	return 0;
}
```

Output



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Library
Type here to sea...
My Computer
Kali-Linux-2020.4
Shared VMs (Deprec
My Computer
Kali-Linux-2020.4-vmware-a...
[/home/kali/
File Actions Edit View Help

```
┌──(kali㉿kali)-[~/Desktop]
└─$ lex q2.l

┌──(kali㉿kali)-[~/Desktop]
└─$ gcc lex.yy.c

┌──(kali㉿kali)-[~/Desktop]
└─$ ./a.out
Enter String
abbabb
Accepted
abb
Accepted
babb
Accepted
abbb
Not Accepted
babbba
Not Accepted
```

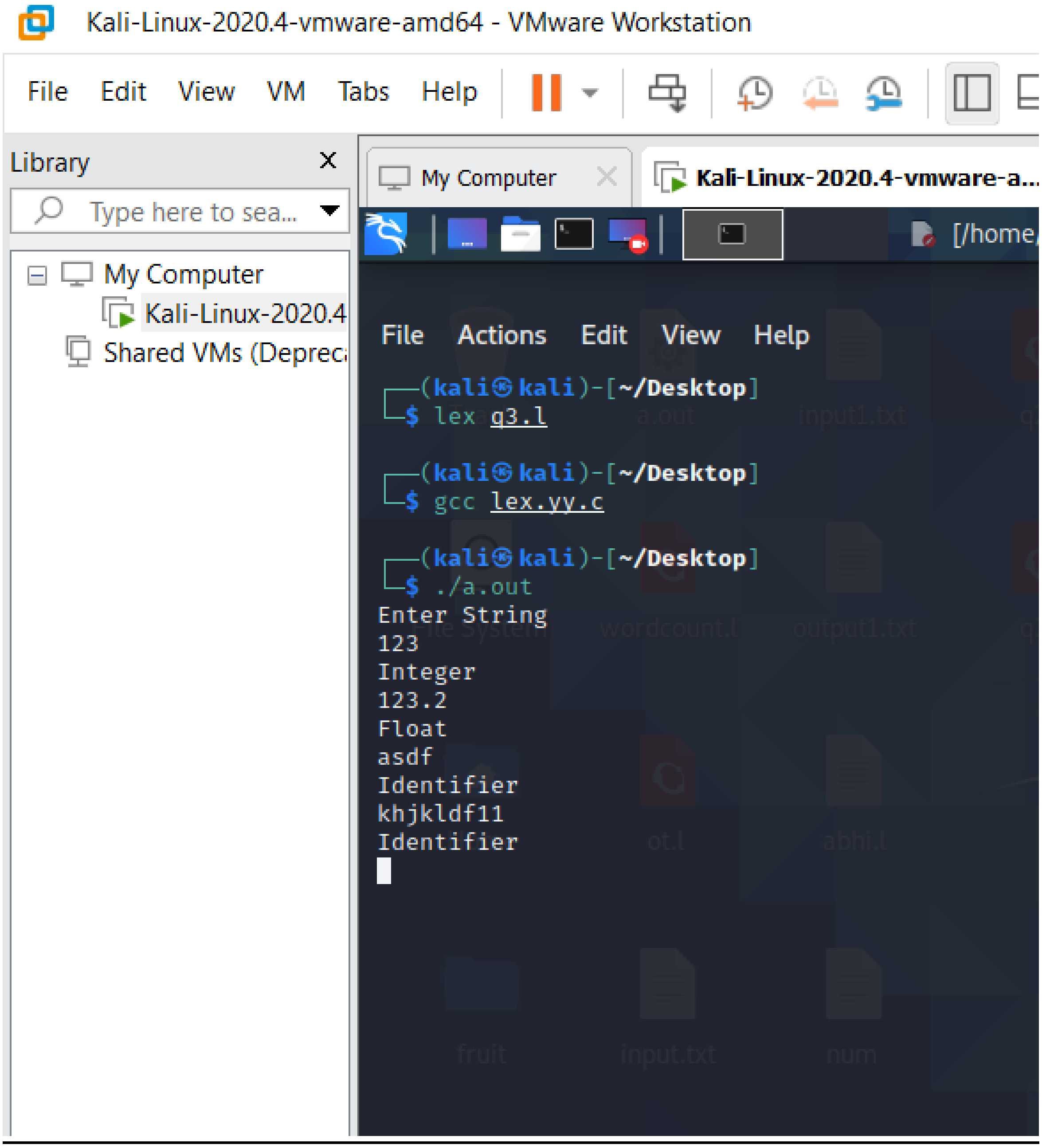
Program 3.

```
%{
%}

%s A B C D DEAD

%%
<INITIAL>[0-9] BEGIN A;
<INITIAL>[a-z] BEGIN D;
<INITIAL>[A-Z] BEGIN D;
<INITIAL>_ BEGIN D;
<INITIAL>[^a-zA-Z0-9\n_] BEGIN DEAD;
<INITIAL>\n BEGIN INITIAL;{printf("Not Accepted\n");}

<A>[0-9] BEGIN A;
<A>. BEGIN B;
<A>b[^0-9.\n] BEGIN DEAD;
<A>\n BEGIN INITIAL;{printf("Integer\n");}


<B>[0-9] BEGIN C;
<B>[^0-9\n] BEGIN DEAD;
<B>\n BEGIN INITIAL;{printf("Not Accepted\n");}
```

```
<D>[a-z] BEGIN D;
<D>[A-Z] BEGIN D;
<D>[0-9] BEGIN D;
<D>_ BEGIN D;
<D>[^a-zA-Z0-9\n_] BEGIN DEAD;
<D>\n BEGIN INITIAL;{printf("Identifier\n");}

<C>[0-9] BEGIN C;
<C>[^0-9\n] BEGIN DEAD;
<C>\n BEGIN INITIAL;{printf("Float\n");}



<DEAD>[^\n] BEGIN DEAD;
<DEAD>\n BEGIN INITIAL;{printf("Invalid\n");}

%%
int yywrap()
{
	return 0;
}

int main()
```

```
{
        printf("Enter String\n");
        yylex();
        return 0;
}
```

Output


Kali-Linux-2020.4-vmware-amd64 - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to sea...
My Computer
Kali-Linux-2020.4
Shared VMs (Deprec
My Computer
Kali-Linux-2020.4-vmware-a...
[/home
File Actions Edit View Help

```
┌──(kali㉿kali)-[~/Desktop]
└─$ lex q3.l

┌──(kali㉿kali)-[~/Desktop]
└─$ gcc lex.yy.c

┌──(kali㉿kali)-[~/Desktop]
└─$ ./a.out
Enter String
123
Integer
123.2
Float
asdf
Identifier
khjkldf11
Identifier
█
```