WEEK - 1 LAB

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CSE-E

Programs:

1. Implementation of Language recognizer for set of all strings over input alphabet ∑={a,b} containing even number of a's and even number of b's.

```
#include<stdio.h>
void main(){
 int state=0,i=0;
 char current,input[20];
 printf("Enter input string \t :");
 scanf("%s",input);
 while((current=input[i++])!='\0'){
switch(state)
 {
 case 0: if(current=='a')
 state=1;
 else if(current=='b')
 state=2;
 else
 {
 printf("Invalid token");  exit(0);
 }
 break;
 case 1: if(current=='a')
 state=0;
 else if(current=='b')
 state=3;
 else
 {
 printf("Invalid token");  exit(0);
 }
 break;
 case 2: if(current=='a')
 state=3;
 else if(current=='b')
```

```
state=0;
else
{
printf("Invalid token");  exit(0);
}
break;
case 3: if(current=='a')
state=2;
else if(current=='b')
state=1;
else
{
printf("Invalid token");
exit(0);
}
break;
}
}
if(state==0)
printf("\n\nString accepted\n\n");
else
printf("\n\nString not accepted\n\n");
}
```

2. Implementation of Language recognizer for set of all strings ending with two symbols of same type.

```
#include<stdio.h>
void main()
{
   int state=0,i=0;
   char token,input[20];
   printf("Enter input string \t :");
   scanf("%s",input);
   while((token=input[i++])!='\0')
   {
      switch(state)
      {
         case 0: if(token=='a')
                    state=1;
                 else if(token=='b')
                    state=3;
                 else
```

```
        {
           printf("Invalid entry");

        }
        break;

case 1: if(token=='a')
           state=2;
        else if(token=='b')
           state=3;
        else
        {
           printf("Invalid entry");

        }
        break;

case 2: if(token=='a')
           state=2;
        else if(token=='b')
           state=3;
        else
        {
           printf("Invalid entry");

        }
        break;

case 3: if(token=='a')
           state=1;
        else if(token=='b')
           state=4;
        else
        {
           printf("Invalid entry");

        }
        break;

case 4: if(token=='a')
           state=1;
        else if(token=='b')
           state=4;
        else
```

```
                {
                    printf("Invalid entry");

                }
                break;

        }
    }
    if(state==2 || state==4)
        printf("\n\nString accepted\n\n");
    else
        printf("\n\nString not accepted\n\n");
}
```