

AIM:

1. Write a program to make study of different security protocols like WEP/ WPA2 PSK, 802.1x EAP security protocol. And Implement RC4 Algorithm

IMPLEMENTATION

```
import java.io.*;
class rc4
{
public static void main(String args[])throws IOException
{
int temp=0;
String ptext;
String key;
int s[]=new int[256];
int k[]=new int[256];
DataInputStream in=new DataInputStream(System.in);
System.out.print("\nEnter PLAIN TEXT\t");
ptext=in.readLine();
System.out.print("\nEnter KEY TEXT\t");
key=in.readLine();
char ptextc[]=ptext.toCharArray();
char keyc[]=key.toCharArray();
int cipher[]=new int[ptext.length()];
int decrypt[]=new int[ptext.length()];
int ptexti[]=new int[ptext.length()];
int keyi[]=new int[key.length()];
for(int i=0;i<ptext.length();i++)
{
ptexti[i]=(int)ptextc[i];
```

```

}
for(int i=0;i<key.length();i++)
{
keyi[i]=(int)keyc[i];
}
for(int i=0;i<255;i++)
{
s[i]=i; k[i]=keyi[i%key.length()];
}
int j=0;
for(int i=0;i<255;i++)
{
j=(j+s[i]+k[i])%256;
temp=s[i];
s[i]=s[j];
s[j]=temp;
}
int i=0;
j=0;
int z=0;
for(int l=0;l<ptext.length();l++)
{
i=(l+1)%256;
j=(j+s[i])%256;
temp=s[i];
s[i]=s[j];
s[j]=temp;
z=s[(s[i]+s[j])%256];
cipher[l]=z^ptexti[l];
decrypt[l]=z^cipher[l];
}

```

```
System.out.print("\n\nENCRYPTED:\t\t");
display(cipher);
System.out.print("\n\nDECRYPTED:\t\t");
display(decrypt);
}
static void display(int disp[])
{
char convert[]=new char[disp.length];
for(int l=0;l<disp.length;l++)
{
convert[l]=(char)disp[l];
System.out.print(convert[l]);
}
}
}
```

OUTPUT: