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Enrolment number: - BT19ECE010

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Subject: - Digital Communication

LAB REPORT 9

Aim: To study encoding and decoding of cyclic block code using MATLAB.

Code:

```
% BT19ECE010 Yashkumar Ingrodiya
```

```
clc;
```

```
clear all;
```

```
close all;
```

```
k=input('Enter the length of msg word: ');
```

```
n=input('Enter the length of code word: ');
```

```
m=input('Enter the msg word: ');
```

```
G=cyclpoly(n,k,'max');
```

```
gx=poly2sym(G);
```

```
C=encode(m,n,k,'cyclic',G);
```

```
D=decode(C,n,k,'cyclic',G);
```

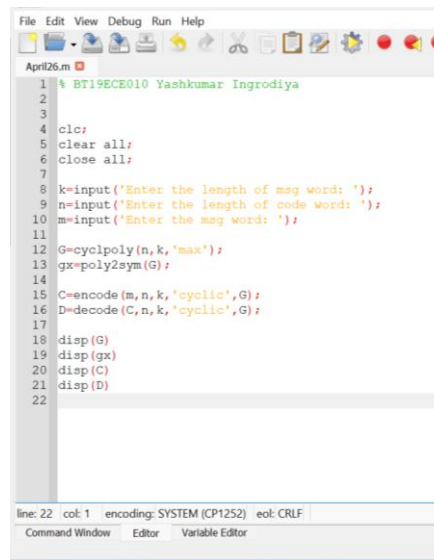
```
disp(G)
```

```
disp(gx)
```

```
disp(C)
```

```
disp(D)
```

Screenshot:



```
1 % BT19ECE010 Yashkumar Ingrodiya
2
3
4 clc;
5 clear all;
6 close all;
7
8 k=input('Enter the length of msg word: ');
9 n=input('Enter the length of code word: ');
10 m=input('Enter the msg word: ');
11
12 G=cyclpoly(n,k,'max');
13 gx=poly2sym(G);
14
15 C=encode(m,n,k,'cyclic',G);
16 D=decode(C,n,k,'cyclic',G);
17
18 disp(G)
19 disp(gx)
20 disp(C)
21 disp(D)
22
```

Output:

```
Enter the length of msg word:
4
Enter the length of code word:
7
Enter the msg word:
[1 0 1 0]
      1      1      0      1
x^3 + x^2 + 1
      0      0      1      1      0      1      0
      1      0      1      0
>>
```

Conclusion: Hence, encoding and decoding of circular blocks has been studied and code has been implemented.