

## Logic design

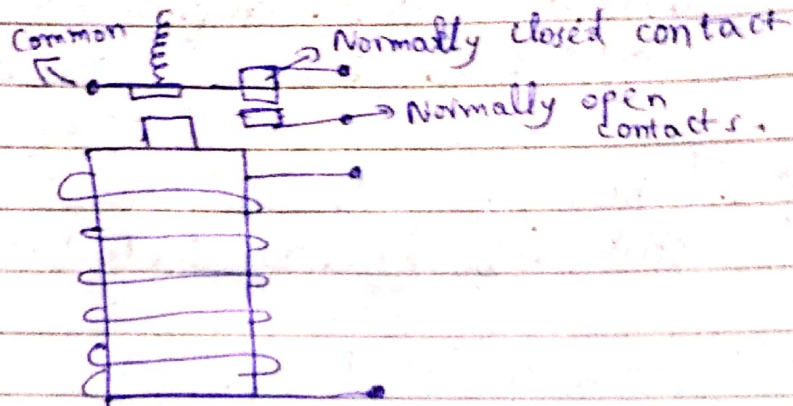
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30/5/2020

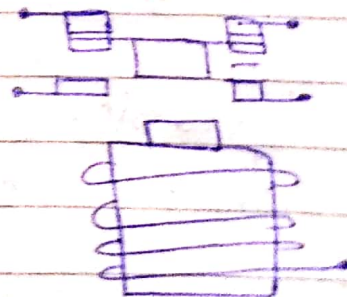
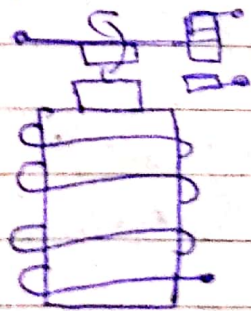
### \* Application of Programmable logic controllers.

- Contact Relay



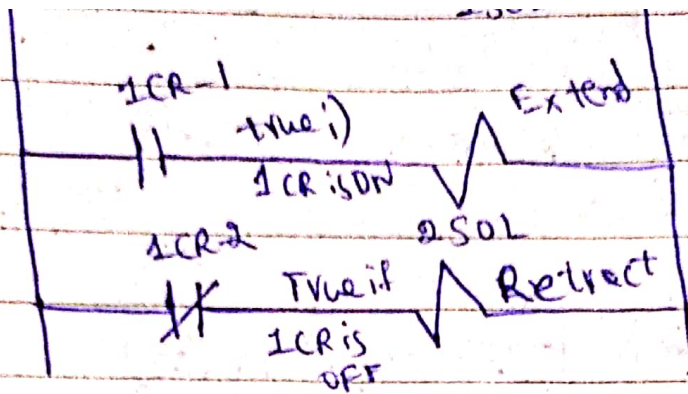
In this we can use more contact i.e., set of coil in this we use only one terminal.

Flow the contacts are designed.



Relates a common contact b/w the normally closed & normally open.

Relates a shorting bar b/w the normally closed & normally open contacts.



- \* 2SOL is currently energized
- \* Currently 1CR-2 is true & 1PB & 1CR-1 is false.
- \* With 1PB & 1CR-1 is ON & 1CR-2 is off.



- Installing the library -

```
pip install opencv-python  
import cv2
```

- ```
img = cv2.imread('galaxy.jpg', 0)  
print(type(img))  
print(img)  
print(img.shape)  
print(img.ndim)
```

```
resized_image = cv2.resize(img, (int(img.shape[1]*  
int(img.shape[0]*0.5)))
```

```
cv2.imshow("Galaxy", resized_image)
```

```
cv2.imwrite("Galaxy-resized.jpg", resized_image)
```

```
cv2.destroyAllWindows()
```

- Face detection -

```
img = cv2.rectangle(img, (x, y), (x+w, y+h),  
                    (0, 255, 0) 3)
```

```
print (type (faces))  
print (faces)
```

```
resized = cv2.resize(img, (int(img.shape[1]/3),  
                          int(img.shape[0]/3))
```

```
cv2.imshow ("Gray", resized)  
cv2.waitKey(0)  
cv2.destroyAllWindows()
```

Capturing video:-

```
import cv2  
video = cv2.VideoCapture()  
a = 0  
while True:  
    a = a + 1  
    check, frame = video.read()  
    print (check)  
    print (frame)
```