

Corrigé du TP Informatique 22

Exercice 1

1. On saisit :

```
def produit(T,i,j,K):  
    S=0  
    for k in range(-1,2):  
        for l in range(-1,2):  
            S+=T[i+k][j+l]*K[1+k][1+l]  
    return int(max(min(S,255),0))
```

2. On saisit :

```
def convolution(T,K):  
    n=len(T)  
    p=len(T[0])  
    Tc=[[0 for j in range(p)] for i in range(n)]  
    for i in range(1,n-1):  
        for j in range(1,p-1):  
            Tc[i][j]=produit(T,i,j,K)  
    return Tc
```

Exercice 2

```
def flou(T):  
    Kflou=[[1/9 for j in range(3)] for i in range(3)]  
    Tflou=convolution(T,Kflou)  
    return Tflou
```

Exercice 3

```
def contour(T):  
    Kcontour=[[-1 for j in range(3)] for i in range(3)]  
    Kcontour[1][1]=8  
    Tcontour=convolution(T,Kcontour)  
    return Tcontour
```

