Лабораторна №2

1) Виділити контур для зображення cameraman.tif оператором Собеля

y

|  |  |  |
| --- | --- | --- |
| a | b | c |
| d |  | e |
| g  x | h | i |

,

.)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | -1 | -2 | -1 | | 0 | 0 | 0 | | 1 | 2 | 1 | | |  |  |  | | --- | --- | --- | | -1 | 0 | 1 | | -2 | 0 | 2 | | -1 | 0 | 1 | |

 

2) *оператор Собеля* :

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | -1/4 | -1/2 | 0 | 1/2 | 1/4 | | -1/2 | -1 | 0 | 1 | 1/2 | | -1 | -2 | 0 | 2 | 1 | | -1/2 | -1 | 0 | 1 | 1/2 | | -1/4 | -1/2 | 0 | 1/2 | 1/4 | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | 1/4 | 1/2 | 1 | 1/2 | 1/4 | | 1/2 | 1 | 2 | 1 | 1/2 | | 0 | 0 | 0 | 0 | 0 | | -1/2 | -1 | -2 | -1 | -1/2 | | -1/4 | -1/2 | -1 | -1/2 | -1/4 | |

 

3)

а) Для зображення cameraman.tif застосувати операцію препарування наступного вигляду

визначивши точки перегину функції препарування, використавши функціію гістограми для зображення cameraman.tif.

б) Виділити контур отриманого зображення оператором Собеля вікном [3x3].