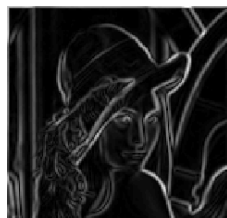
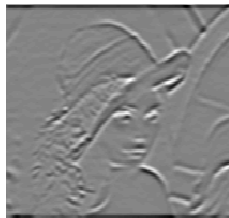


Vaja 3

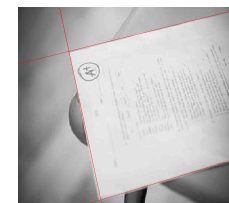
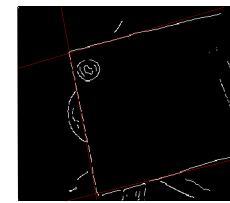
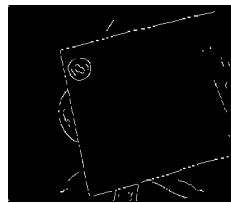
- Naloga 1: Določanje odvodov slike



- Naloga 2: Detekcija roba v sliki

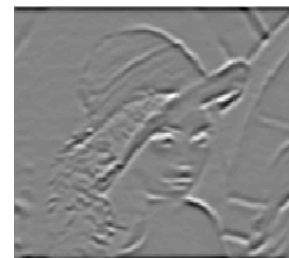


- Naloga 3: Houghova transformacija

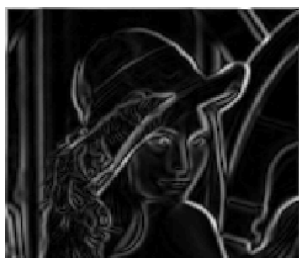
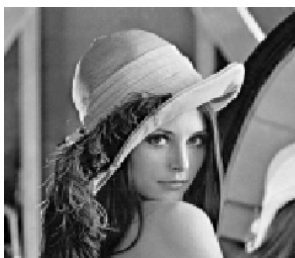


Naloga1: Določanje odvodov

- Implementacija **parcialnih odvodov** (1.,2.red) slike s konvolucijo



- Implementacija **magnitude in smeri odvoda**



- Implementacija **Laplaca Gaussa**



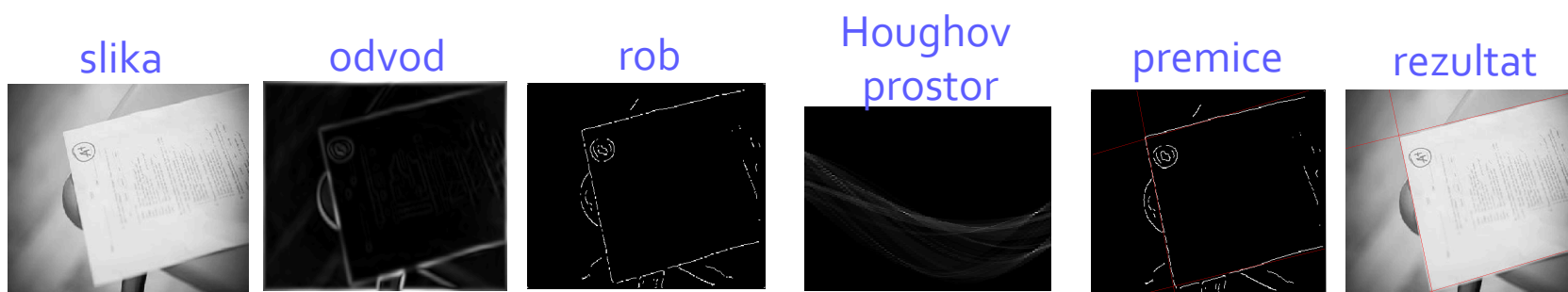
Naloga 2: Detekcija roba v sliki

- Implementacija iskanja **roba slike z upragovanjem** magnitude odvoda
- Implementacija iskanja **lokalnih maksimumov** za **tanjšanje robov**



Naloga 3: Houghov transform

- Uporaba robov za detekcijo ravnih črt v sliki
- Implementacija: **Houghov transform za ravne črte**

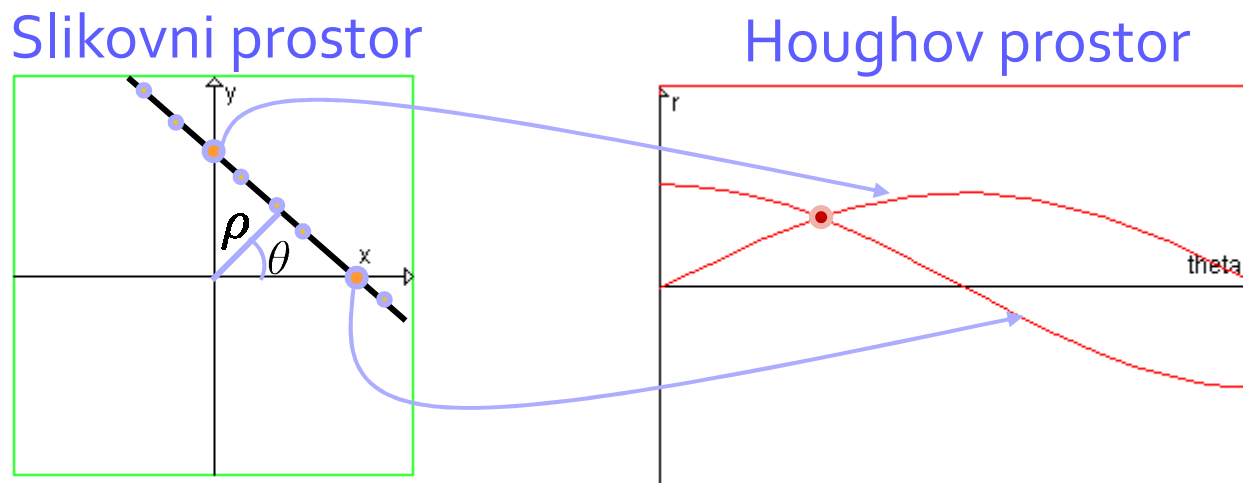


- **Spletni primeri** Houghovega transforma za premice:
 - <http://users.cs.cf.ac.uk/Paul.Rosin/CMo311/dual2/hough.html>
- **Spletni primeri** Houghovega transforma za kroge:
 - <http://doserver1.fnal.gov/users/ngraf/Talks/UTeV/Java/Circles.html>

Naloga 3: Houghov transform

- Premice zapišemo **v polarnih koordinatah**

$$x \cos(\theta) + y \sin(\theta) = \rho$$



- **Spletni primeri** Houghovega transforma za premice:

- <http://users.cs.cf.ac.uk/Paul.Rosin/CMo311/dual2/hough.html>