Podstawowy warsztat informatyka

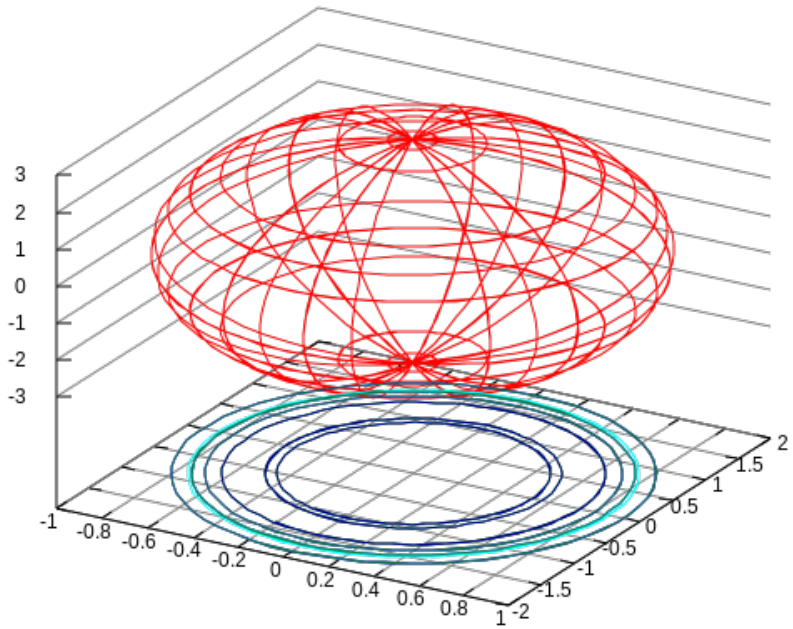
PWI

Instytut Informatyki Uniwersytetu Wrocławskiego

Wykład 11

Gnuplot

- Gnuplot to narzędzie do tworzenia wykresów 2D i 3D;
- wiele rodzajów wykresów: linie, punkty, powierzchnie;
- wyjście: m.in. eps, emf, fig, jpeg, LaTeX, pdf, png, postscript.



`wikipedia`

Gnuplot

Środowisko interaktywne `gnuplot`
polecenie `load '3.gp'`
Ew. wywołanie `gnuplot 3.gp -p`

```
piotrek@piotrek-msi:~/Pulpit/pwi/gnuplot$ gnuplot

        G N U P L O T
        Version 5.2 patchlevel 2    last modified 2017-11-01

        Copyright (C) 1986-1993, 1998, 2004, 2007-2017
        Thomas Williams, Colin Kelley and many others

        gnuplot home:     http://www.gnuplot.info
        faq, bugs, etc:   type "help FAQ"
        immediate help:   type "help"  (plot window: hit 'h')

Terminal type is now 'qt'
gnuplot> load '3.gp'
gnuplot>
```

Gnuplot: wykresy funkcji matematycznych

```
# from wikipedia
set title "Some Math Functions"
set xrange [-10:10]
set yrange [-2:2]
set zeroaxis
plot (x/4)**2, sin(x), 1/x
```

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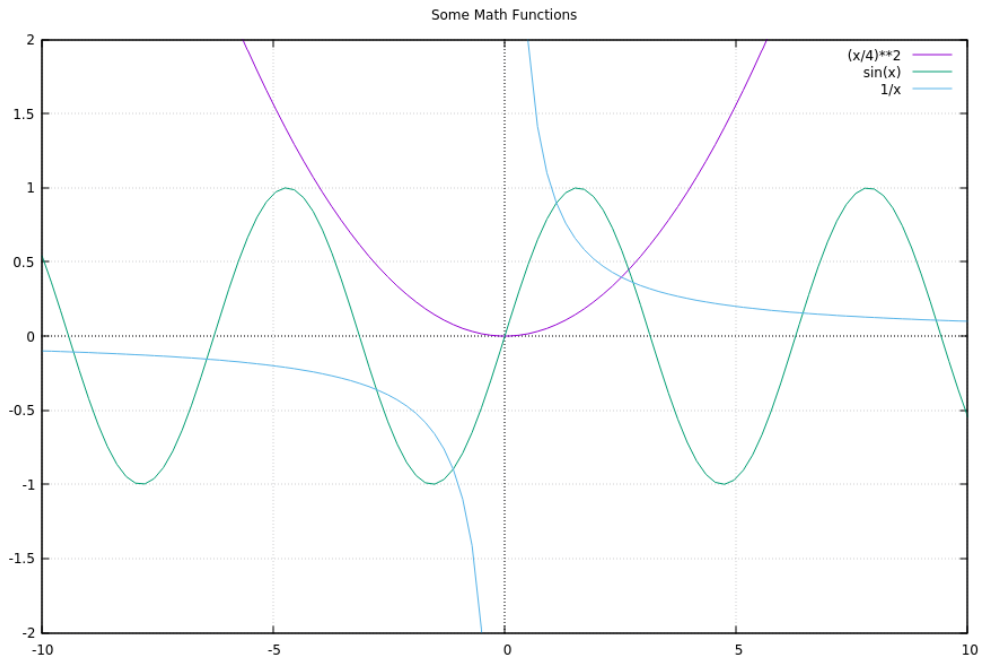

Gnuplot: wykresy 3d

```
# from http://www.gnuplot.info/demo/
splot x**2+y**2
```

Gnuplot: wykresy 3d

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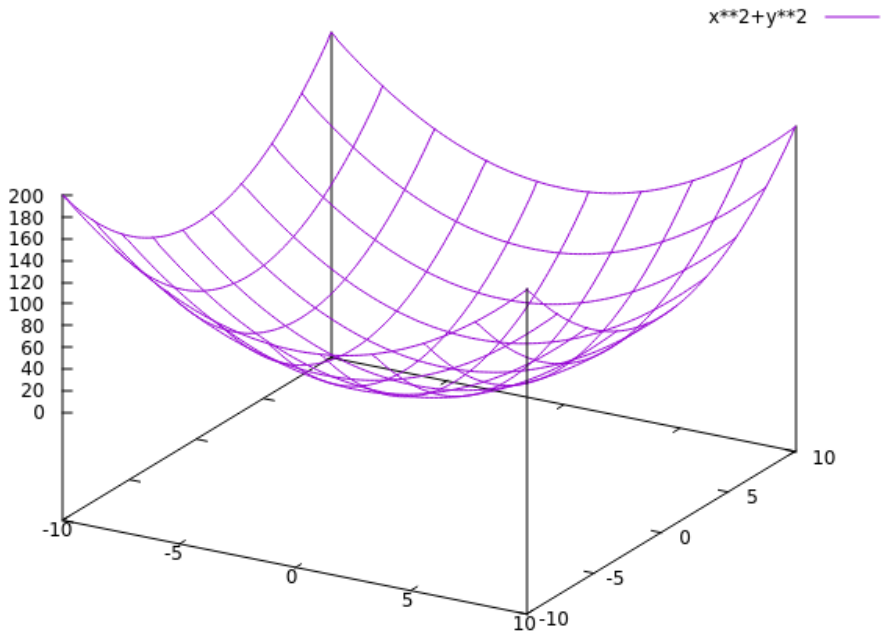
```

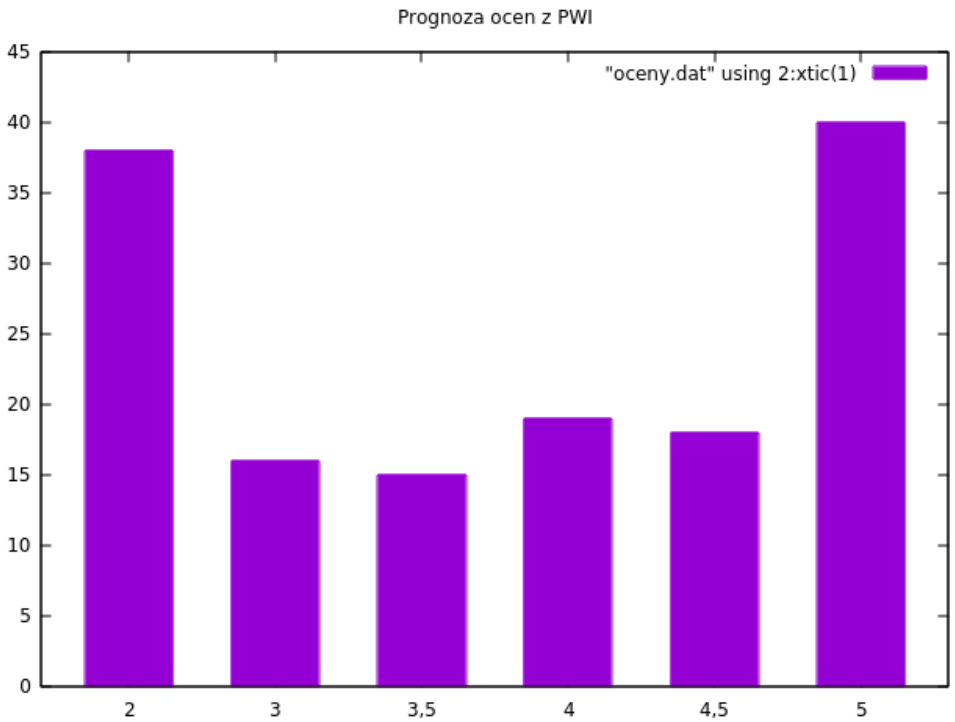


Gnuplot: oceny z PWI

```
2      38
3      16
3,5    15
4      19
4,5    18
5      40
```

Gnuplot: oceny z PWI

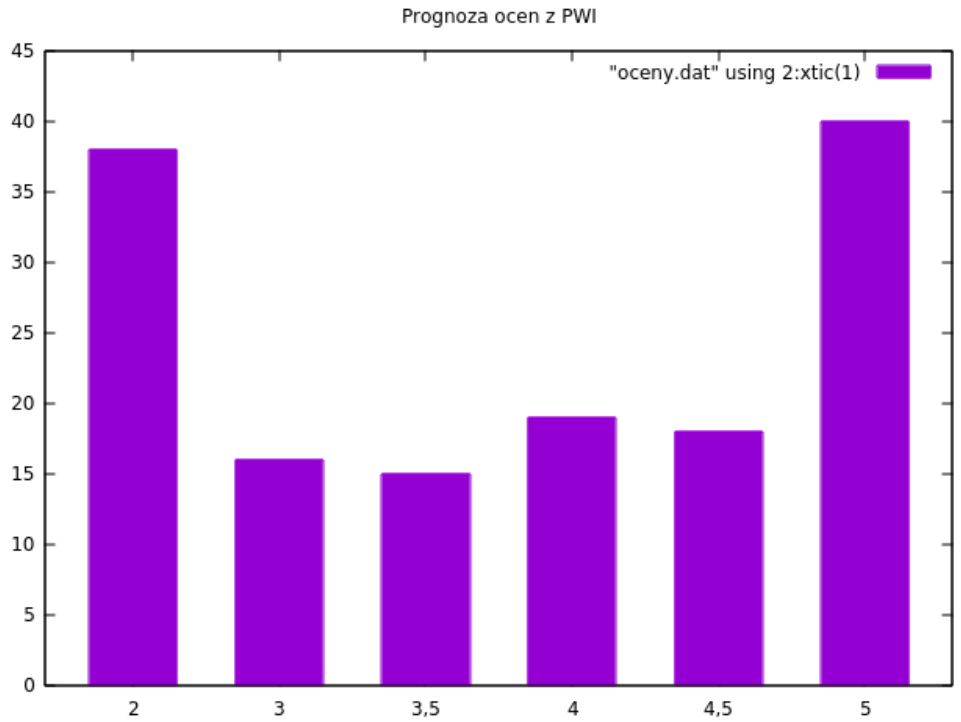
```
2       38
3       16
3,5     15
4       19
4,5     18
5       40
```



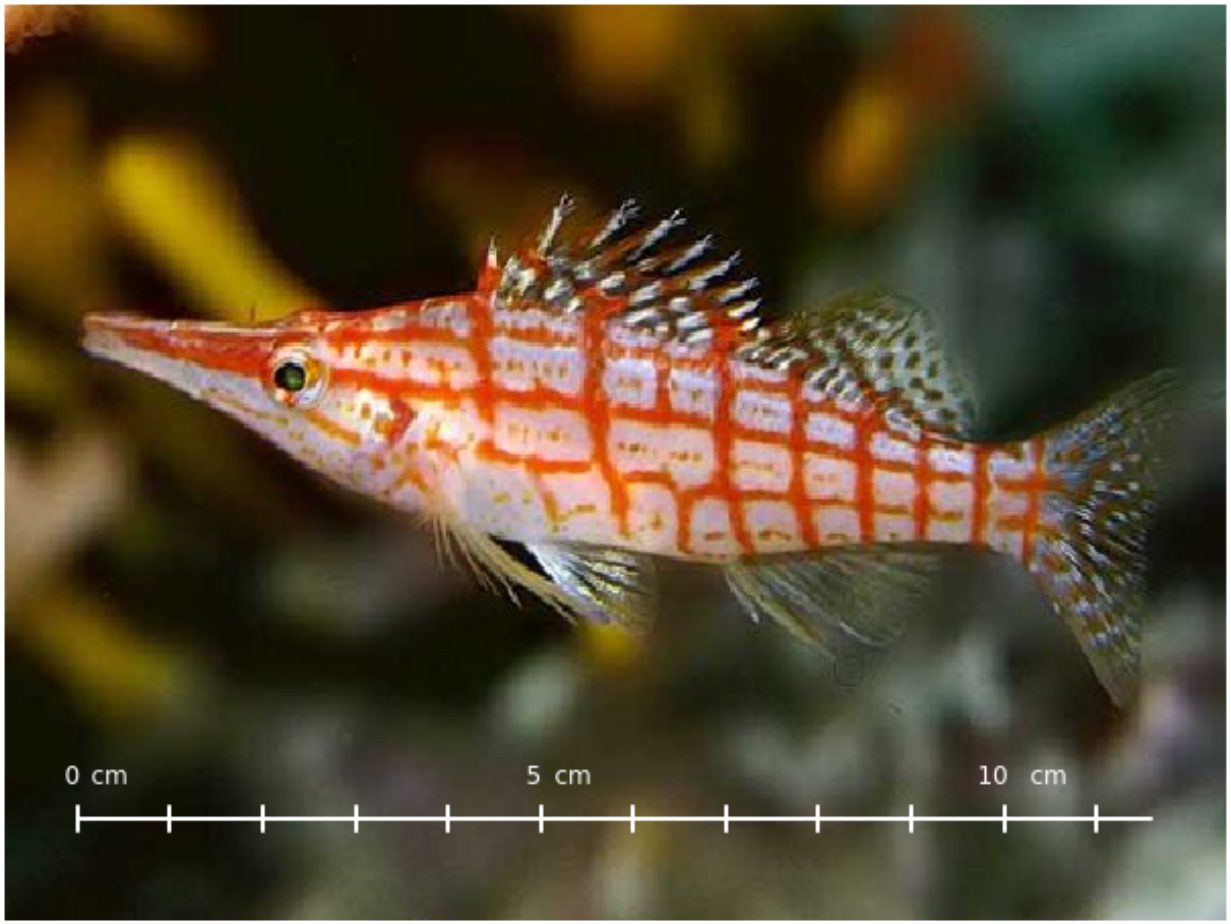
Gnuplot: oceny z PWI

```
set title "Prognoza␣ocen␣z␣PWI"
set boxwidth 0.6
set style fill solid
set yrange [0:45]

plot "oceny.dat" using 2:xtic(1) with boxes
```



Gnuplot: wykresy na obrazkach



http://www.gnuplotting.org/images-within-a-graph/

Gnuplot: wykresy na obrazkach

```
# from http://www.gnuplotting.org/images-within-a-graph/
unset key; unset tics; unset border
set style line 1 lc rgb '#ffffff' lt 1 lw 2 # white

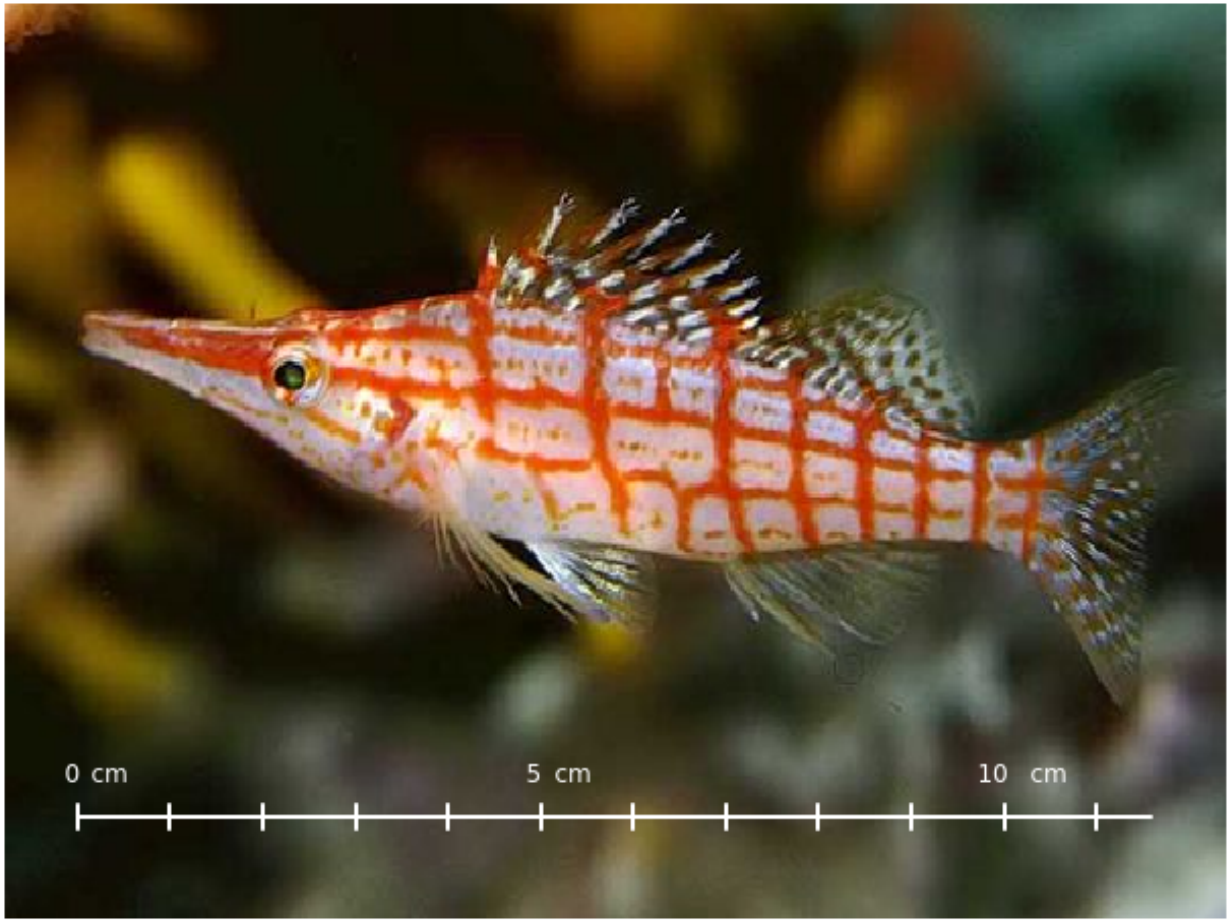
set arrow from 31,40 to 495,40 nohead front ls 1
set for [ii=0:11] arrow from 31+ii*40,35 \
   to 31+ii*40,45 nohead front ls 1


set label '0 cm'  at  25,57 front tc ls 1
set label '5 cm'  at 225,57 front tc ls 1
set label '10 cm' at 420,57 front tc ls 1

plot 'fish.jpg' binary filetype=jpg with rgbimage
```

Gnuplot: pętle

```
set arrow from 31,40 to 495,40 nohead front ls 1
set for [ii=0:11] arrow from 31+ii*40,35 \
    to 31+ii*40,45 nohead front ls 1
```



Gnuplot

http://www.gnuplot.info/demo/
http://www.gnuplotting.org
http://gnuplot.sourceforge.net/documentation.html