

3. konferenca učiteljev naravoslovnih predmetov
Povezujemo znanje za boljšo pismenost & Scientix

OSNOVNA ŠOLA CANKOVA

QR KODE PRI POUKU MATEMATIKE



Laško, 20.8.2015

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QR koda

- QR je kratica za Quick response (hiter odziv).
- QR koda je matrična oz. dvo-dimenzionalna (2D) črtna koda.
- Razvili so jo za potrebe avtomobilskega proizvajalca Toyota.



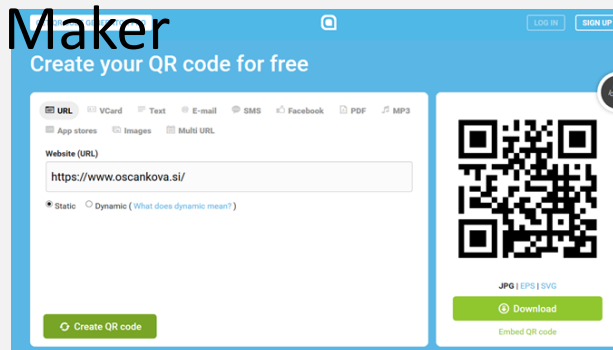
Kaj vse potrebujemo?



1. Računalnik, mobilno napravo (mobilni telefon, tablico)

2. Generator QR kode

- Barcode Generator (Android OS)
- Qrafter QR Code Generator (iPad)
- QR Code Generator (Android OS)
- Bulk QR Code Maker
- QRStuff
- GoQR.com



Vir: <http://www.qr-code-generator.com/?PID=1218&kw=generator%20qr%20code&gclid=CJO6v5iNn8cCFWrwkgodJQwOhg>

3. Bralnik QR kode

- QuickMark QR Reader for PC
- Code Two for Windows
- QR Journal for Mac
- QR Code Reader (Android OS)
- Barcode Reader (Android OS)
- QR Reader (iOS)



Vir: <http://www.quickmark.com.tw/En/basic/index.asp>



Kako ustvarimo QR kodo?

- V brskalnik vnesemo ime izbranega generatorja QR kode.

Bulk QR Code Generator - I... x +

https://www.google.si/search?q=Bulk+QR+Code+Generator&ie=utf-8&oe=utf-8

Google Bulk QR Code Generator

Splet Slike Zemljevidi Videoposnetki Več Orodja za iskanje

Približno 335.000 rez. (0,25 sek.)

Bulk QR Code Generator - QRExplore
www.qrexplorer.com/generate/ Prevedi to stran
Bulk QR Code generator. Generate as many QR Codes as you like, for free, and download them as .png .jpg or .svg files or in a .zip file.

How do I generate a large batch of QR codes? - Quora
[www.quora.com > AutoID > Barcodes > QR Codes](http://www.quora.com/AutoID/Barcodes/QR-Codes) Prevedi to stran

KLIKNEMO.



- Odpre se nam okno s praznim poljem, v katerega vnesemo besedilo.
- Pod besedilom nastavimo lastnosti QR kode.
- S klikom na Generate Code ustvarimo QR kodo.

This page allows you to generate up to 100 QR codes (more with an unlock code), and gives you the option of downloading all of them in a .zip file. The QR codes will be named after their content or you can provide a filename by using the "Treat as CSV" option below. [lots of](#) codes generated today.

QR Code(s)
Enter each QR code on a new line (or separated by one of the supported characters below):

VNOS BESEDILA.

Generate Codes

Error correction level <i>Higher value makes a bigger, more robust code</i> Low	<input type="checkbox"/> Add code data to image <i>Show the URL below the QR code</i>	Rotate the code(s) No
Pixels per block <i>1 will make a tiny code, 5 normal, 10 large</i> 5	<input type="checkbox"/> Treat as CSV <i>E.g. "qrdata,qrfilename"</i>	<input type="checkbox"/> Invert code colour
Border in number of blocks <i>Minimum of 2 recommended</i> 2	<input type="checkbox"/> Add filename to image <i>Show the filename below the QR code</i>	Select an output format PNG
	Font size <i>When data or filename are added to image</i> Small	Separator character <i>Character between codes</i> newline
	Registered Email <i>To generate more than 100 codes</i>	

Generate Codes

NASTAVITVE ZA QR KODE.

Uporaba pri pouku matematike



QR kode lahko uporabljamo pri:

- utrjevanju znanja,
- ponavljanju znanja (miselni vzorci, plakati)*,
- preverjanju znanja,
- urah aktivnosti,
- medpredmetnem povezovanju (šport, matematika).

*QR kode lahko izdelajo tudi učenci sami.

Primer QR kode



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lots of codes generated today.

QR Code(s)

Enter each QR code on a new line (or separated by one of the supported characters below):

1. Nadaljuj zaporedje števil.

- a) 10, 5, 0, __, __, __
- b) -19, -14, -9, __, __, __
- c) -11, -9*5, -8, __, __, __

Rešitve 1. naloge:

- a) 10, 5, 0, -5, -10, -15
- b) -19, -14, -9, -4, 1, 6
- c) -11, -9*5, -8, -6*5, -5, -3*5

2. Izračunaj vrednost izraza.

$$(-10 + 18) + (-24) =$$

Rešitev 2. naloge:

$$\begin{aligned} (-10 + 18) + (-24) &= \\ = 8 + (-24) &= \\ = -16 & \end{aligned}$$

V besedilu ločimo QR kode z znakom ;

KLIKNEMO.

Generate Codes

Generate Codes

Error correction level

Higher value makes a bigger, more robust code

Low

Pixels per block

1 will make a tiny code, 5 normal, 10 large

5

Border in number of blocks

Minimum of 2 recommended

2

Add code data to image

Show the URL below the QR code

Treat as CSV

E.g. "qrdata,qrfilename"

Add filename to image

Show the filename below the QR code

Font size

When data or filename are added to image

Small

Registered Email

To generate more than 100 codes

Rotate the code(s)

No

Invert code colour

Select an output format

PNG

Separator character

Character between codes

newline
newline
pipe (|)
semicolon (;)

Generate Codes

This page allows you to generate up to 100 QR codes (more with an unlock code), and gives you the option of downloading all of them in a .zip file. The QR codes will be named after their content or you can provide a filename by using the 'Treat as CSV' option below. [lots of](#) codes generated today.

4 code(s) generated.

Right-click on a QR code to download the image, or scroll to the bottom to download the .zip file.

Data	QR Code
1. Nadaljuj zaporedje. a) 10, 5, 0, __, __, __ b) -19, -14, -9, __, __, __ c) -11, -9'5, -8, __, __, __	
Rešitve 1. naloge. a) 10, 5, 0, -5, -10, -15 b) -19, -14, -9, -4, 1, 6 c) -11, -9'5, -8, -6'5, -5, -3'5	
2. Izračunaj vrednost izraza. $(-10 + 18) + (-24) =$	
Rešitev 2. naloge. $(-10 + 18) + (-24) = 8 + (-24) = -16$	

po skeniranju →



po skeniranju →



[Download .zip file](#)

PRENESEMO NA RAČUNALNIK.



Primer uporabe



Pitagorov izrek – utrjevanje znanja



Navodilo za delo.

Naloga.



Rešitve z navodili za nadaljnje delo.

Potek:

1. Skeniranje QR kode.



2. Branje naloge.



3. Reševanje naloge.



4. Preverjanje rešitev in navodila za nadaljnje delo.



Prednosti, slabosti



Prednosti:

- tablični računalnik in mobilni telefon kot učni pripomoček,
- bolj dinamičen pouk,
- spodbujanje samostojnosti,
- večja motiviranost učencev,
- bolj zavzeto reševanje nalog ...

Slabosti:

- poraba časa za pripravo gradiv,
- zapisovanje ulomkov in potenc,
- brezplačni generatorji za ustvarjanje QR kode ne pretvarjajo slik oz. skic, tabel ...



HVALA ZA VAŠO POZORNOST





Literatura in viri:

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- [M. Dornik, T. Smolej, M. Turk, M. Vehovec, A. Poljanec, D. Simeršek, K. Gatnik, Kocka 8, matematika za 8. razred osnovne šole, Modrijan, Ljubljana 2007](#)
- https://sl.wikipedia.org/wiki/Koda_QR
- <http://www.qrexplora.com/generate/>
- <http://www.schrockguide.net/qr-codes-in-the-classroom.html>;
- <http://www.quickmark.com.tw/En/basic/index.asp>
- <http://www.qr-code-generator.com/?PID=1218&kw=generator%20qr%20code&gclid=CJO6v5iNn8cCFWrkwgodJQwOhg>