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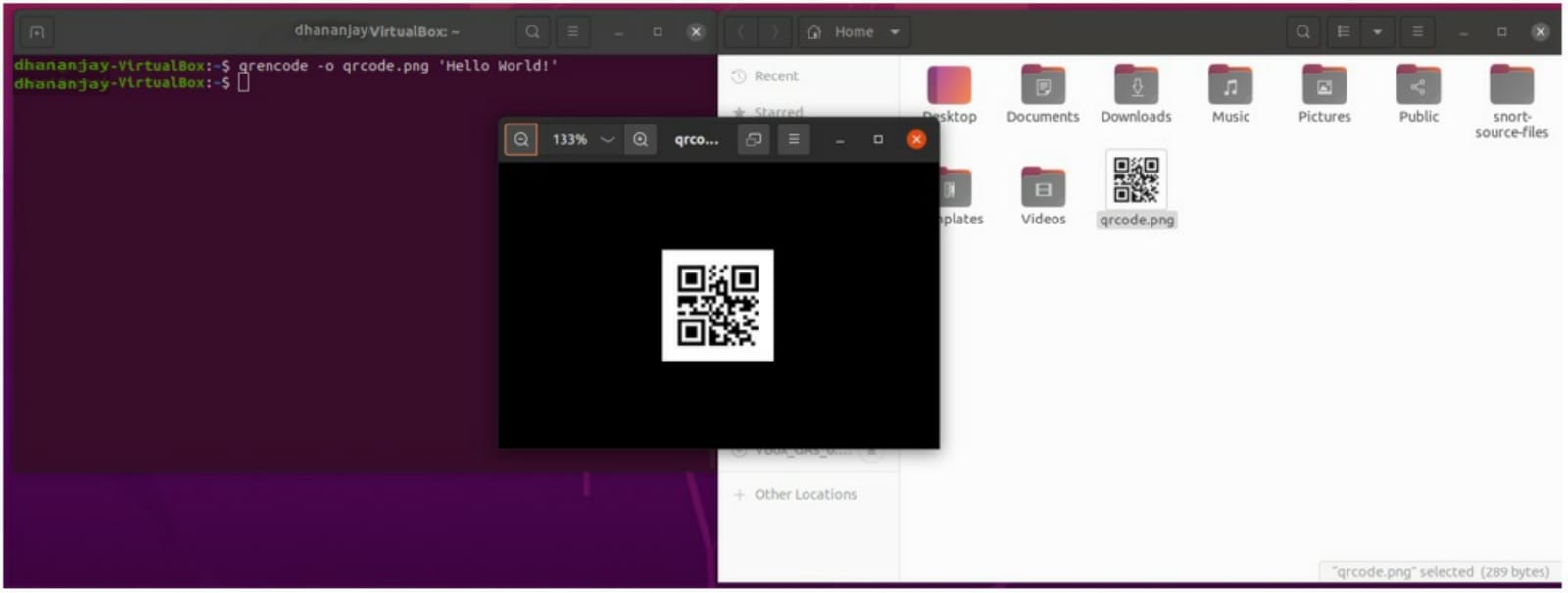
**COURSE :** CSS LAB

**EXPERIMENT :** 7

**AIM :** To create and read QR Codes for the given exercise

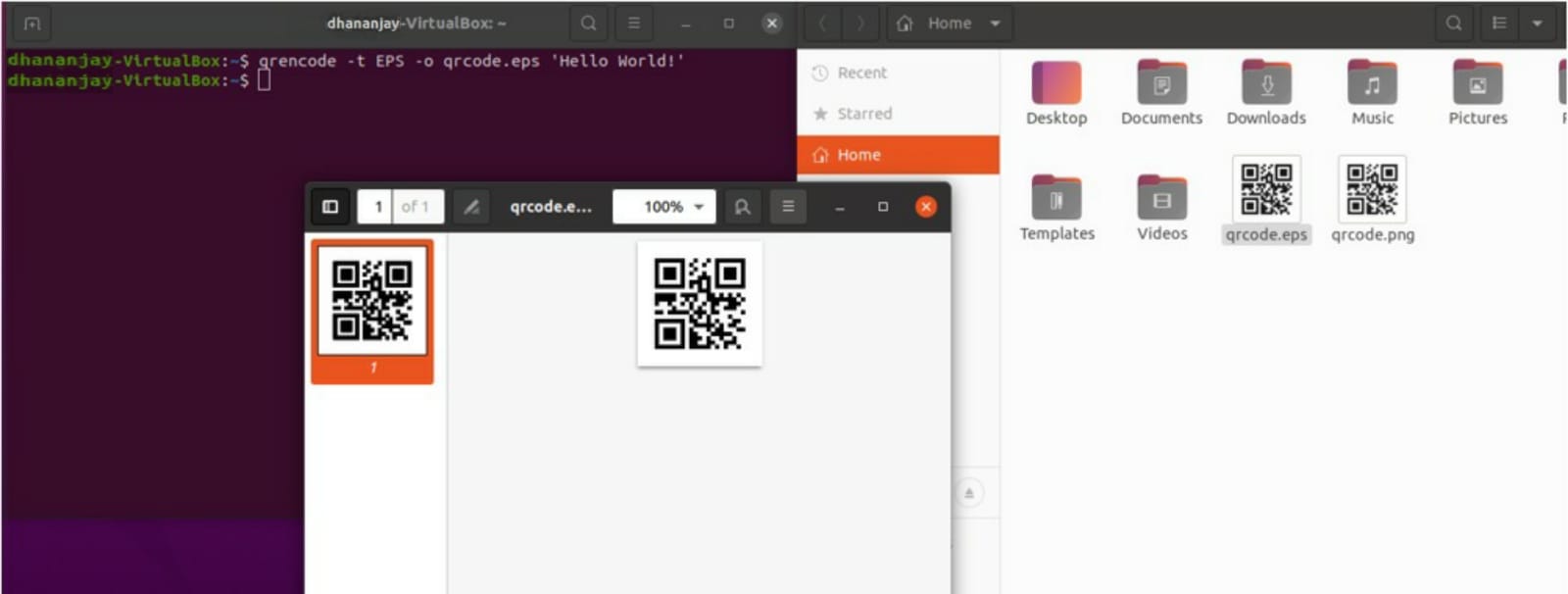
**PROCEDURE:**

1. **The quickest way to create a QR code is with the Qrencode command-line utility. Any major distribution can install Qrencode via the package manager. The following command then creates a QR code containing the text “Hello World!”: $ qrencode -o qrcode.png 'Hello World!'**

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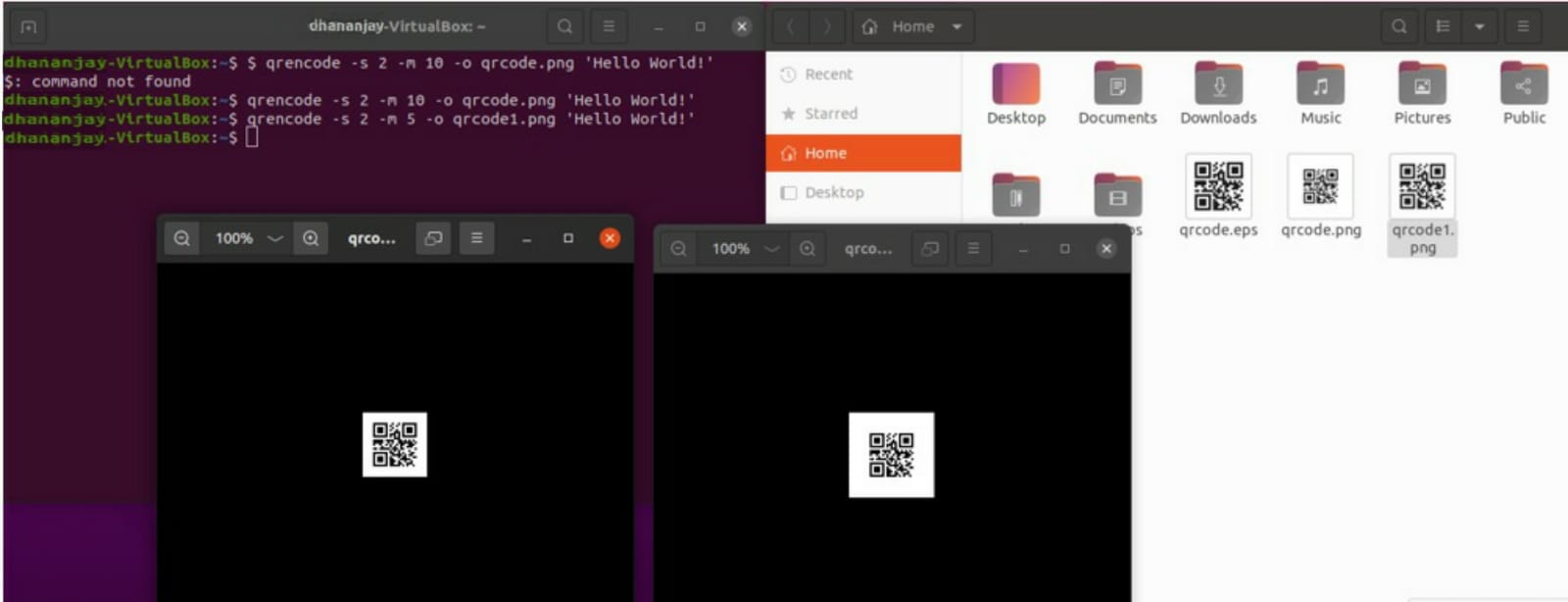
QR Code relevant Hello World will pop up: Qrencode encoding the string “Hello World!” as a QR code and storing it in the qrcode.png file.The generated QR code ends up in theqrcode.pngfile. If the file already exists, it’s overwritten without prompting. If you have at least version 3.3.0 (qrencode -V), Qrencode can generate an EPS graphic.

1. **$ qrencode -t EPS -o qrcode.eps 'Hello World!'**

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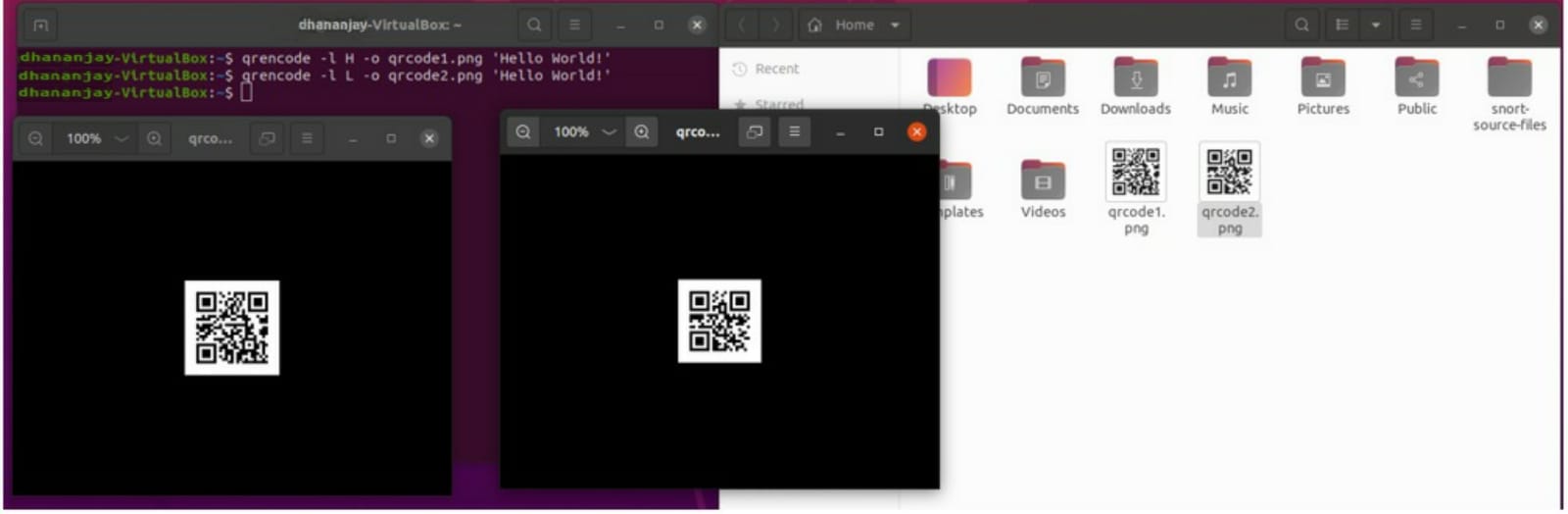
Outputting QR codes in ASCII characters just for fun. Each # corresponds to a dot.In the QR code image, the software creates a white border the width of one dot. This facilitates the process of deciphering the code for programs or the smartphone later on. If desirable, you can increase or decrease the edge with the -m parameter; in the following example the border width would be 10 code pixels

1. **$ qrencode -s 2 -m 10 -o qrcode.png 'Hello World!'**

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If you are saving the QR code in PNG format, the -s parameter specifies the height of a black QR code pixel. By default, Qrencode draws every black dot three by three pixels. The program creates a slightly smaller QR code with quite a wide margin with the following command: $ qrencode -s 2 -m 10 -o qrcode.png 'Hello World!'

1. **Checking tolerance**

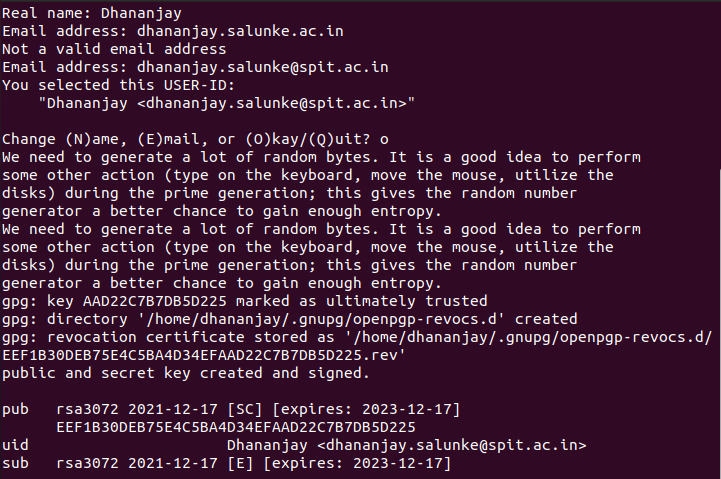
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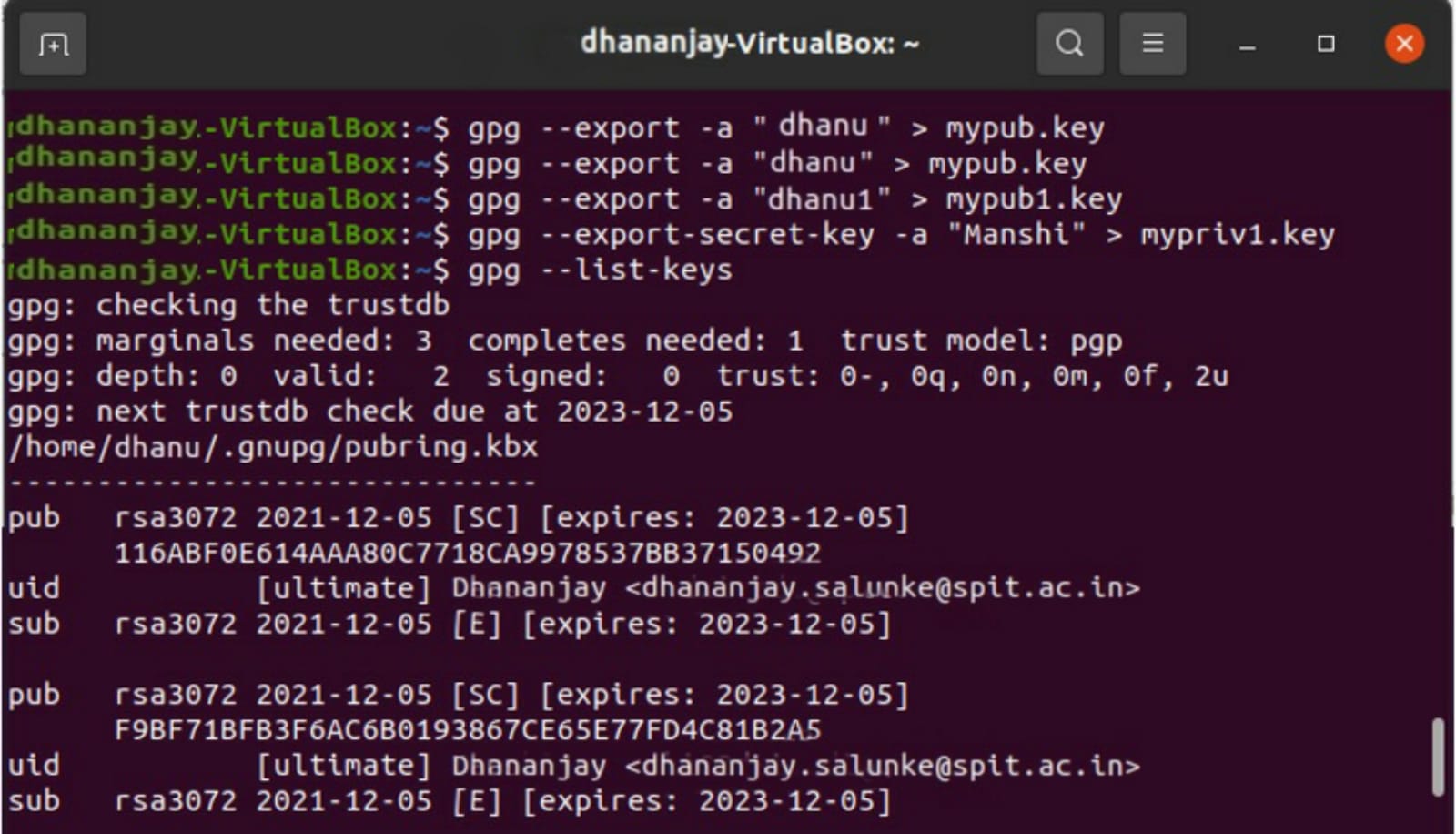
Besides the specified data, the QR code contains additional error correction information. If a portion of the image is damaged, it allows you to reconstruct the missing or illegible data. The more additional information the QR code contains, the more heavily damaged it can be without becoming useless. Increasing the error tolerance increases the size of the image because you need more black dots.

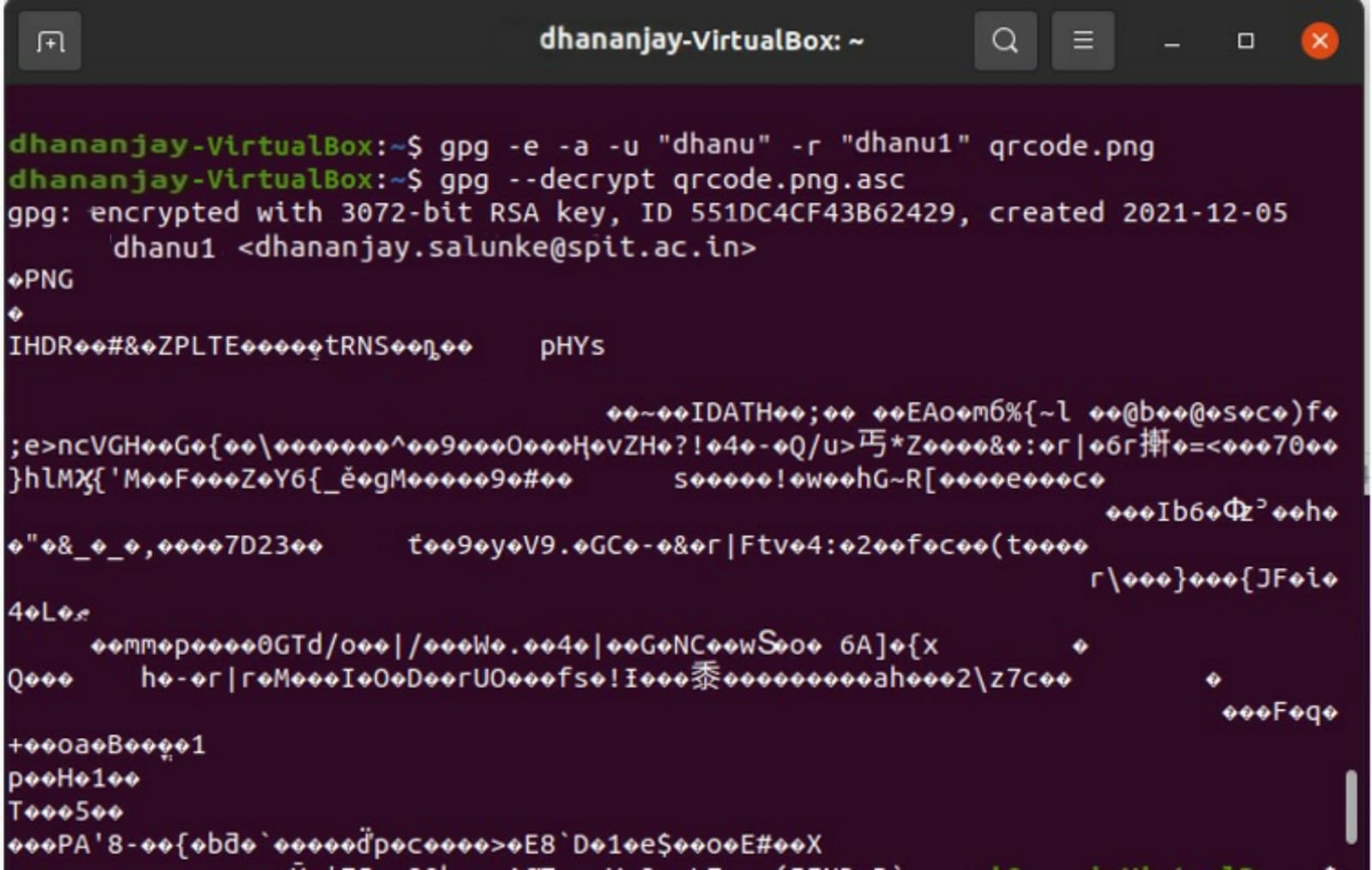
The QR code standard thus uses four levels of error correction:H level allows you to read all data if 30 percent of the QR code is destroyed, Q level if 25 percent is unreadable, and M level if just 15 percent is unintelligible. At the lowest level, L, only 7 percent of the data can be faulty. In Qrencode, the -l parameter selects the error correction level. The possible values are pretty much what you would expect: L,M,Q, and H Of the tested programs, Portable QR-Code Generator offers the greatest functionality. Data entry is also convenient in a variety of tabs. Qrencode creates QR codes more quickly, and it is easy to scripted so you generate QR codes in batches. KBarcode4-light is deprecated, but it is the only program that can generate PDF files; the EPS images created by Qrencode offer similar output.

**Exercise:**

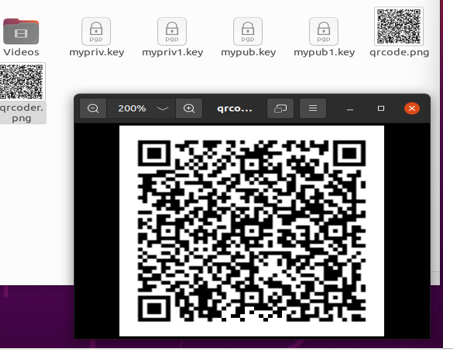
TPO of SPIT has asked you to submit simple QR code of your CV so that company can make off line process to create short list of potential candidates. Hence as a part of exercise create CV showing your Profile, Ability and Capability and generate QR code of CV. This QR code can only be shared between you and company. You will provide your digital signature as an authentication to company. Once authentication is successful company is able to scan this QR code of your CV. Show Implementation steps that you will generate QR code and sign it with your digital signature. Share it with your colleague from same lab with whois capable to verify your digital signature.Successful verification makes scanning of QR code feasible. Show you creativity in terms of robustness of generating digital signature, generating of QR code and Scanning of QR code if relevant secret key is entered

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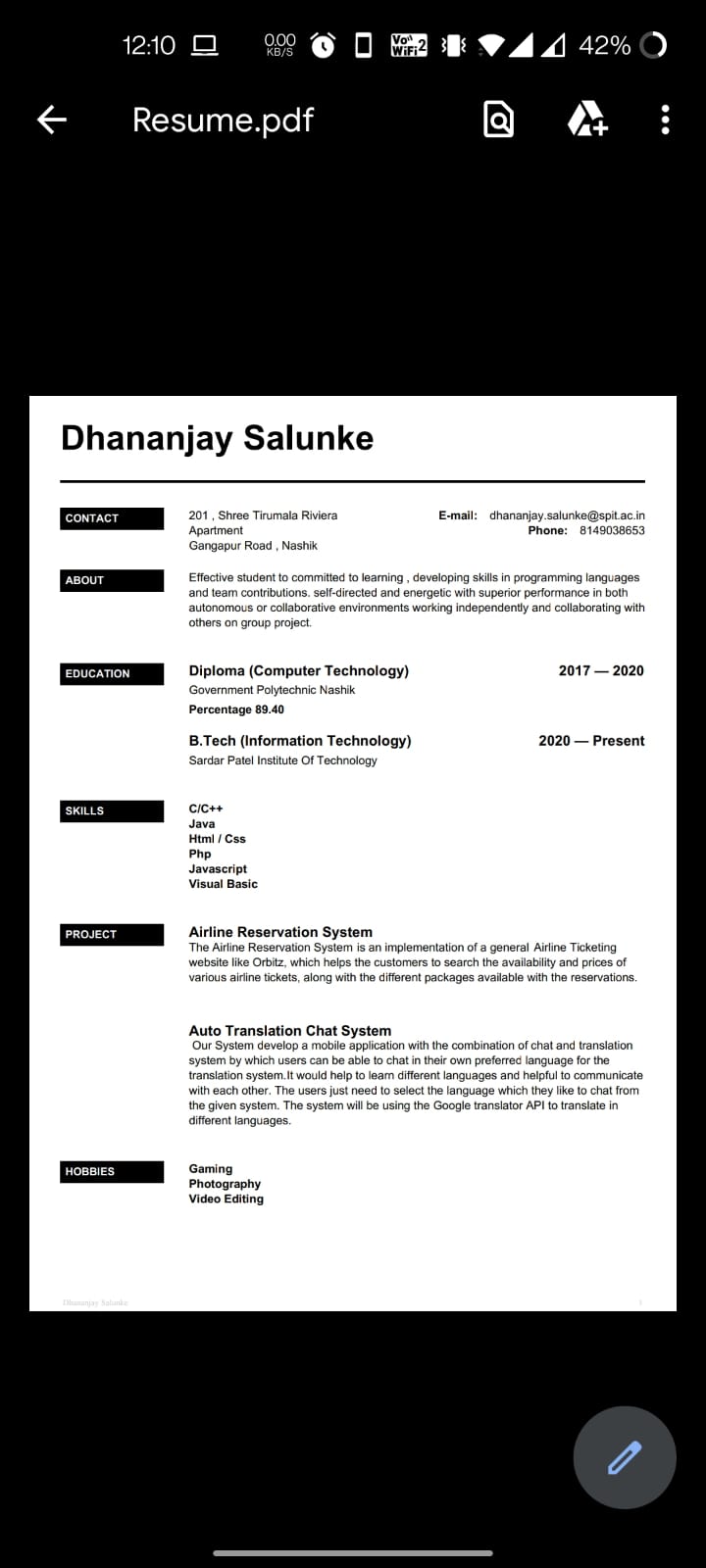
**Output:**

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**Output From Scanning :**



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**Conclusion:**

● I noticed that the code can be decoded at high speed from any direction.

● QR-codes can be designed for multiple purposes such as URL or web address, phone number, contact information, text etc.

● Due to the error correction part, QR codes can be read easily even after some parts are not properly read by the scanning device.

● No license needed to create or use QR codes.

● Just like any other image file it can be encrypted and decrypted without harming its functionality.