

00110001

Vraj

01001000 01001001  
(Hi)

# Evolution of computers

FY D EC

# Index:-

Introduction

First generation of computer

Second generation of computer

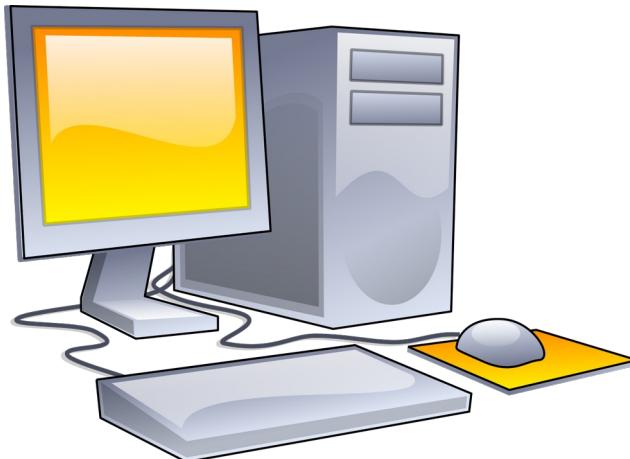
Third generation of computer

Fourth generation of computer

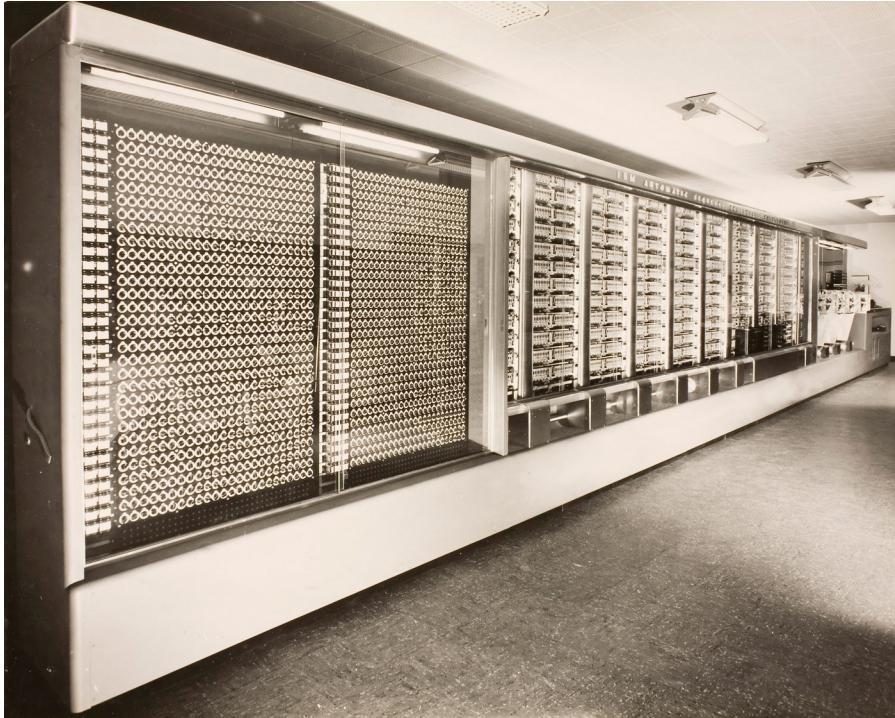
Fifth generation of computer

# What is a Computer?

Computer is an electronic device which is capable of receiving data in a particular form and performing a sequence of operation on predetermined instructions to give output.



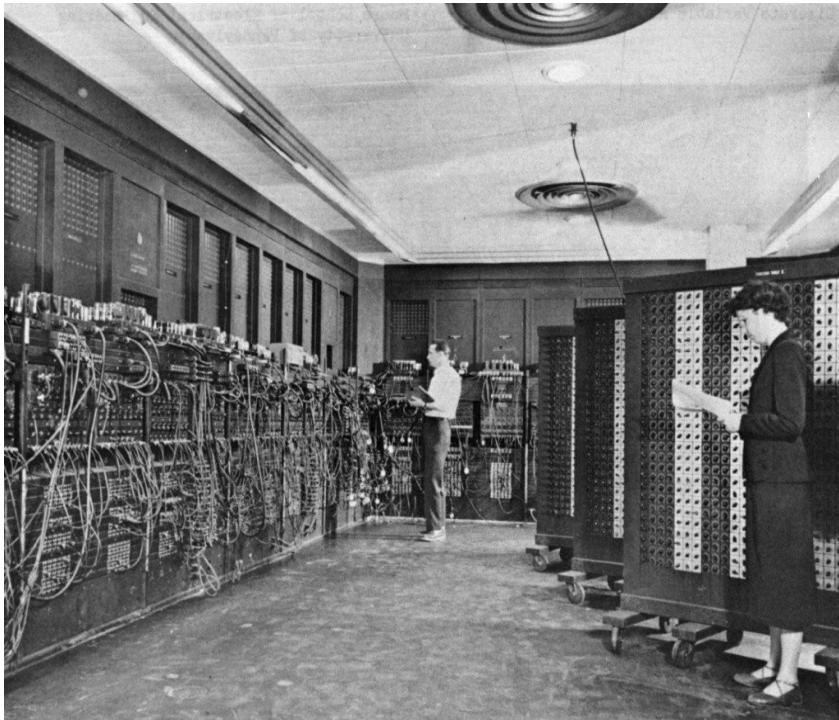
# Mark 1



Mark 1 made in 1944 which is used for purely for calculation at that time.

The weight of this computer was around 5 tons which is equal to 4535.92 Kg.

# First generation of computers

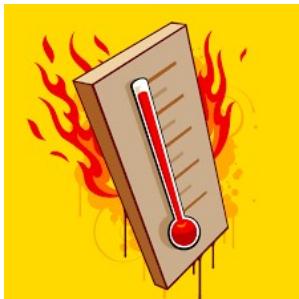
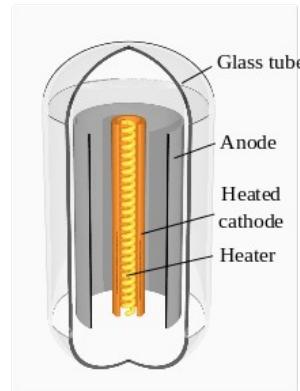


Time period:- 1940 to 1956

Size:- Very large in size

Note:- These machines required magnetic drums for memory and vacuum tubes that worked as switch and amplifiers.

# What are vacuum tubes?



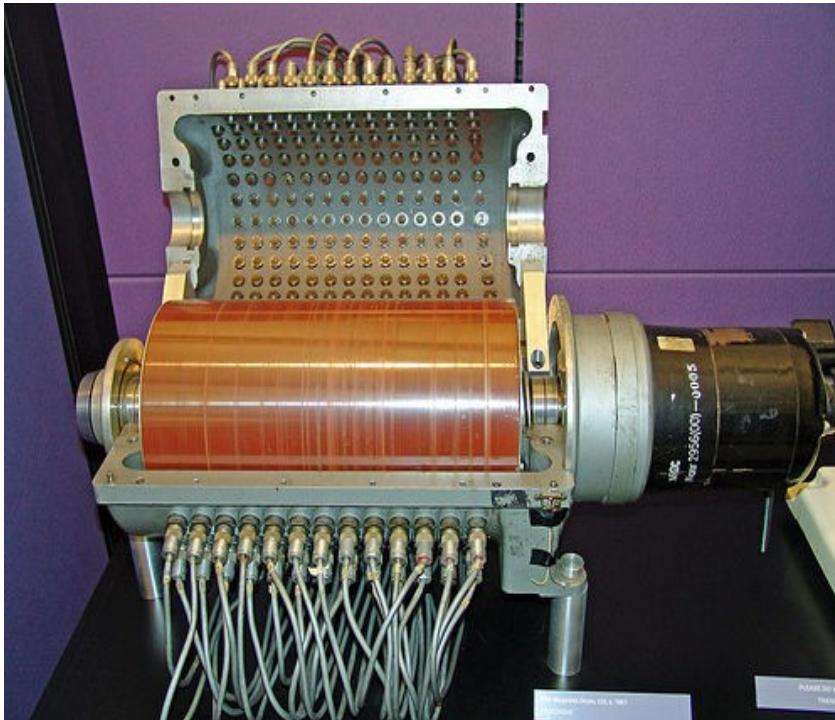
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=

Bigger size!  
Of  
computer

# What are magnetic drums?



A metallic cylinder with metal oxide material on which data can be stored.

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S.S.D



H.D.D



# Second generation of computers



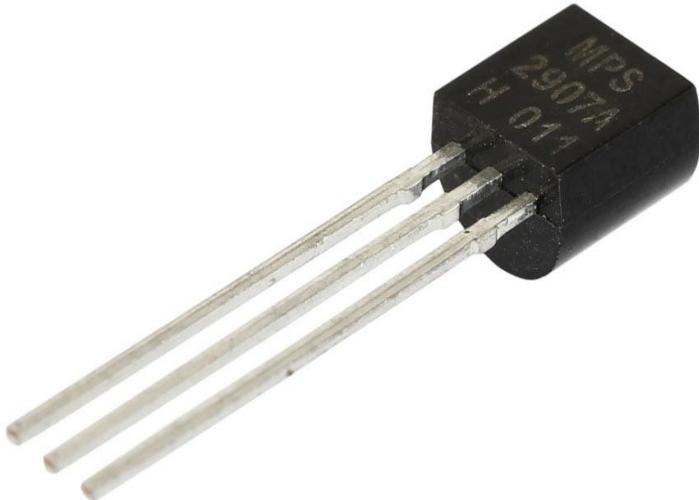
Time period:- 1956 to 1963

Size:- Smaller than the previous due to transistor.

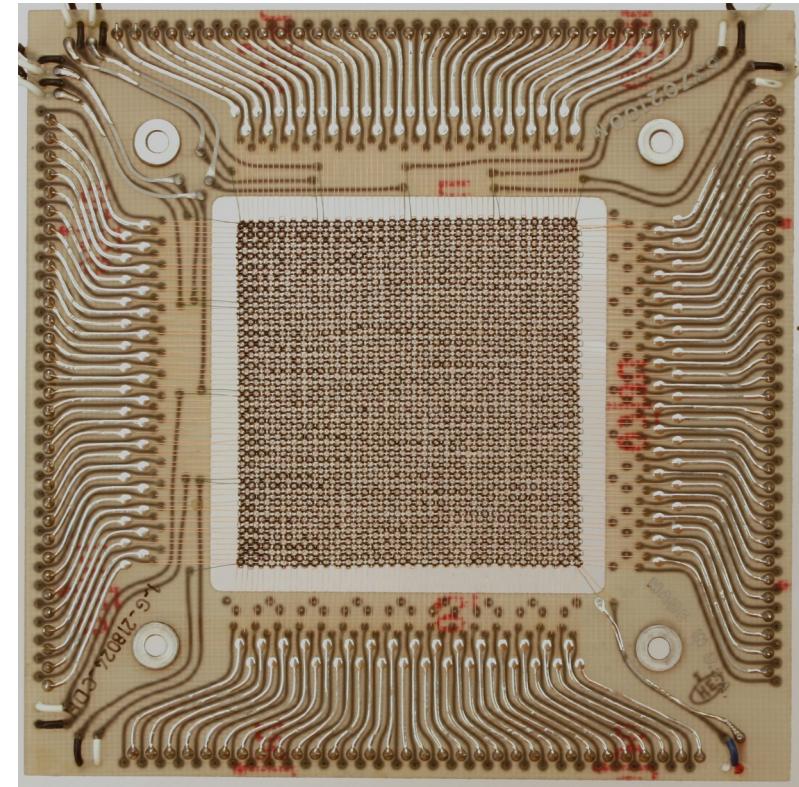
Note:- Second Generation computers were faster and used core memory for storage along with magnetic drums.

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# Transistor



# Core Memory

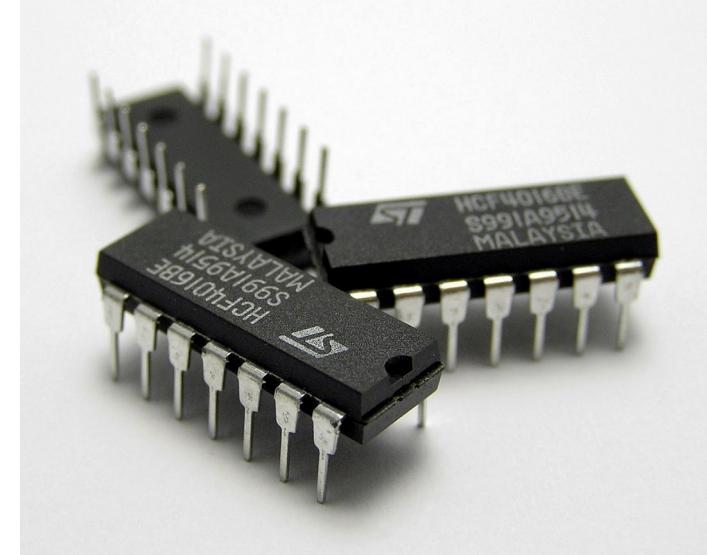


# Third generation of computers



Time period:- 1964 to 1961

Size:- Very smaller than the previous.



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Printed in U.S.A. REMINGTON RAND P-11782

This image shows a sample Remington Rand tab card. The card features a grid of holes and printed text. The top row contains numbers 1 through 9 and letters A through Z. Below this is a row of holes labeled A through Q. The next few rows show various patterns of punched and unpunched holes. A horizontal line with numbered holes from 1 to 45 is followed by the text "THIS IS A SAMPLE REMINGTON RAND TAB CARD". Another horizontal line below it also has numbered holes and the text "THIS IS A SAMPLE REMINGTON RAND TAB CARD". The bottom portion of the card contains more hole patterns and some faint, illegible markings.

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Keyboard

Moniter



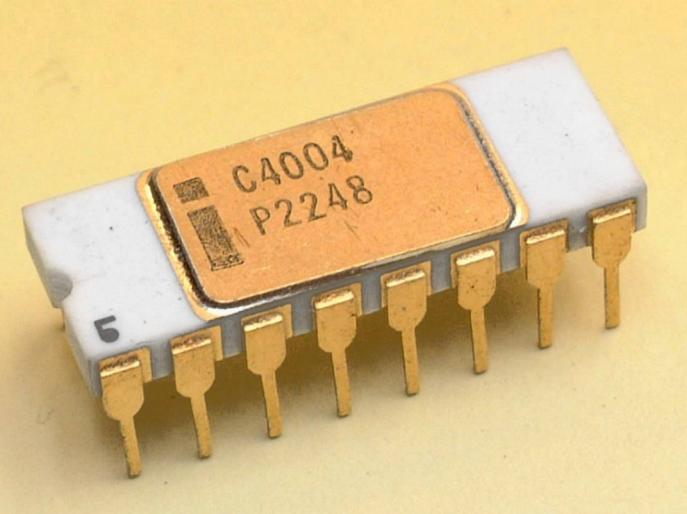
# Fourth generation of computers



Time period:- 1971 to Present

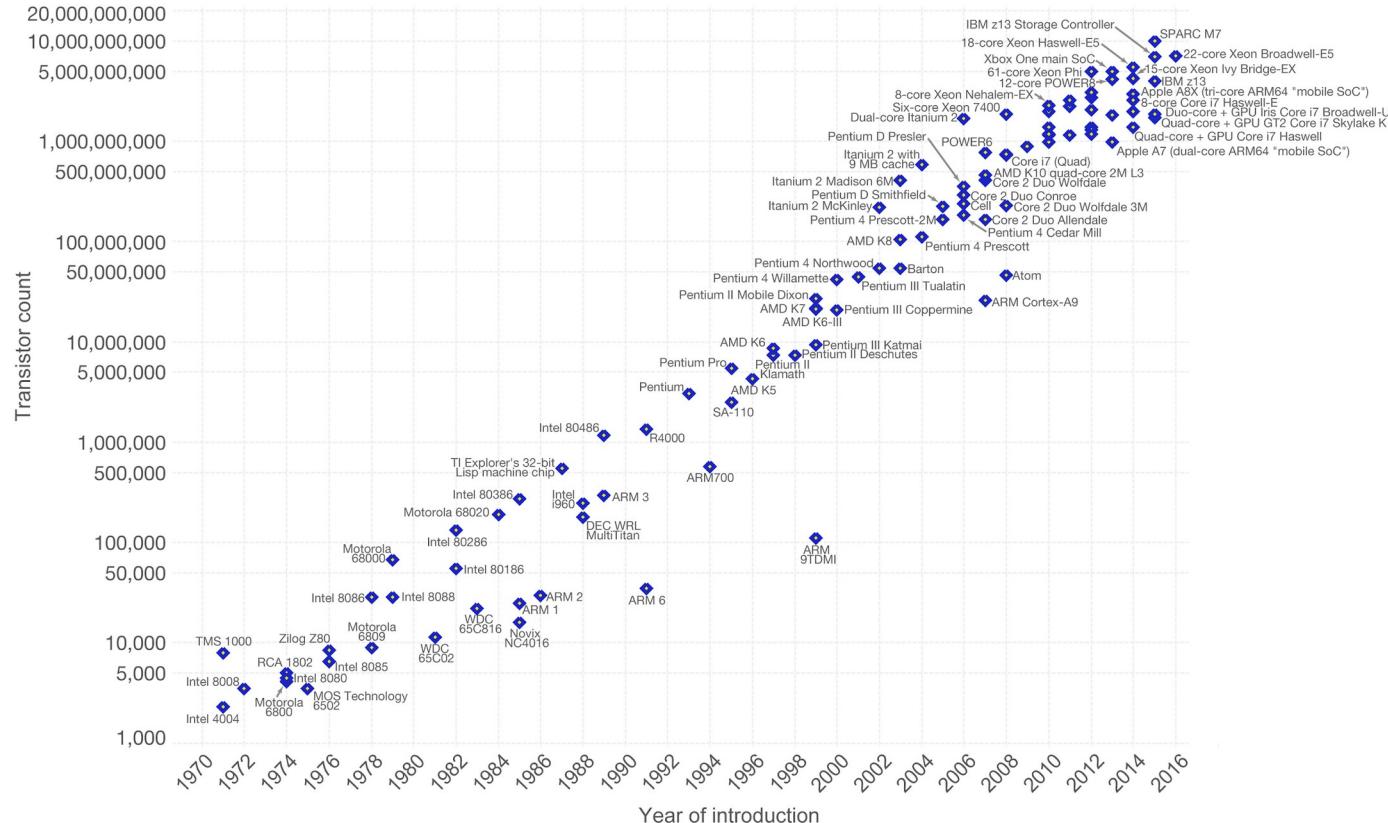
Note:- In this generation the companies like intel, Amd, etc. could put millions of transistors on a single silicon chip. And in this time period Microprocessor were commercially available in the market which allowed users to make their own pc at home.

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# Moore's Law – The number of transistors on integrated circuit chips (1971-2016)

Moore's law describes the empirical regularity that the number of transistors on integrated circuits doubles approximately every two years. This advancement is important as other aspects of technological progress – such as processing speed or the price of electronic products – are strongly linked to Moore's law.



Data source: Wikipedia ([https://en.wikipedia.org/wiki/Transistor\\_count](https://en.wikipedia.org/wiki/Transistor_count))

The data visualization is available at OurWorldinData.org. There you find more visualizations and research on this topic.

Licensed under CC-BY-SA by the author Max Roser.

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Era of portable  
devices begin



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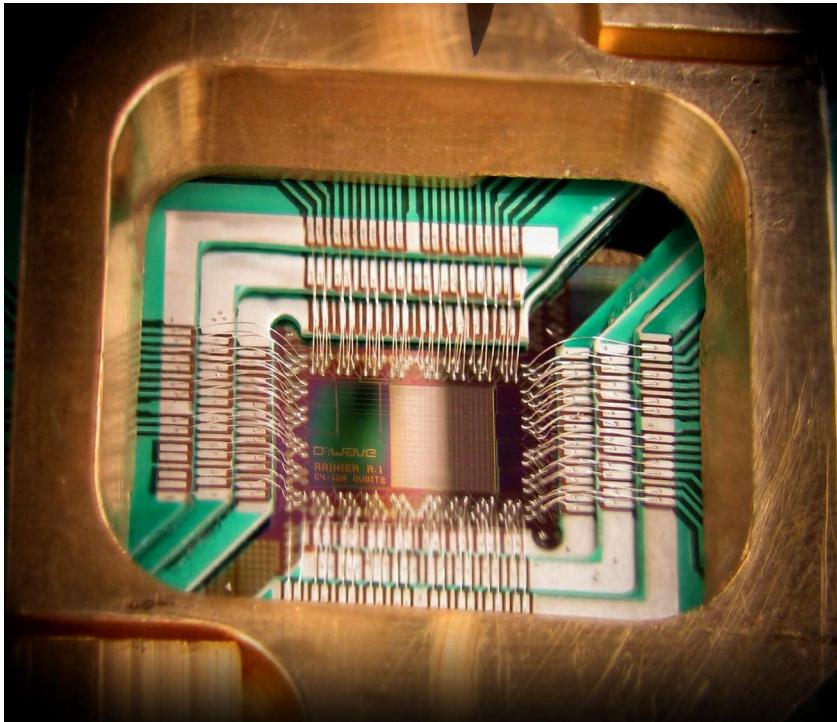
```
[root@localhost ~]# ping -q fa.wikipedia.org
PING text.pmtpa.wikimedia.org (208.80.152.2) 56(84) bytes of data.
^C
--- text.pmtpa.wikimedia.org ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 540.528/540.528/540.528/0.000 ms
[root@localhost ~]# pwd
/root
[root@localhost ~]# cd /var
[root@localhost var]# ls -la
total 72
drwxr-xr-x. 18 root root 4096 Jul 30 22:43 .
drwxr-xr-x. 23 root root 4096 Sep 14 20:42 ..
drwxr-xr-x. 2 root root 4096 May 14 00:15 account
drwxr-xr-x. 11 root root 4096 Jul 31 22:26 cache
drwxr-xr-x. 3 root root 4096 May 18 16:03 db
drwxr-xr-x. 3 root root 4096 May 18 16:03 empty
drwxr-xr-x. 2 root root 4096 May 18 16:03 games
drwxrwx--T. 2 root gdm 4096 Jun 2 18:39 gdm
drwxr-xr-x. 38 root root 4096 May 18 16:03 lib
drwxr-xr-x. 2 root root 4096 May 18 16:03 local
lrwxrwxrwx. 1 root root 11 May 14 00:12 lock -> ../run/lock
drwxr-xr-x. 14 root root 4096 Sep 14 20:42 log
lrwxrwxrwx. 1 root root 10 Jul 30 22:43 mail -> spool/mail
drwxr-xr-x. 2 root root 4096 May 18 16:03 nis
drwxr-xr-x. 2 root root 4096 May 18 16:03 opt
drwxr-xr-x. 2 root root 4096 May 18 16:03 preserve
drwxr-xr-x. 2 root root 4096 Jul 1 22:11 report
lrwxrwxrwx. 1 root root 6 May 14 00:12 run -> ../run
drwxr-xr-x. 14 root root 4096 May 18 16:03 spool
drwxrwxrwt. 4 root root 4096 Sep 12 23:50 tmp
drwxr-xr-x. 2 root root 4096 May 18 16:03 yp
[root@localhost var]# yum search wiki
Loaded plugins: langpacks, presto, refresh-packagekit, remove-with-leaves
rpmfusion-free-updates
rpmfusion-free-updates/primary_db
| 2.7 kB 00:00
rpmfusion-nonfree-updates
updates/metalink
updates
| 206 kB 00:04
updates
| 2.7 kB 00:00
updates/primary_db
| 5.9 kB 00:00
| 4.7 kB 00:00
| 62 kB/s | 2.6 MB 00:15 ETA
```

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# Fifth generation of computers

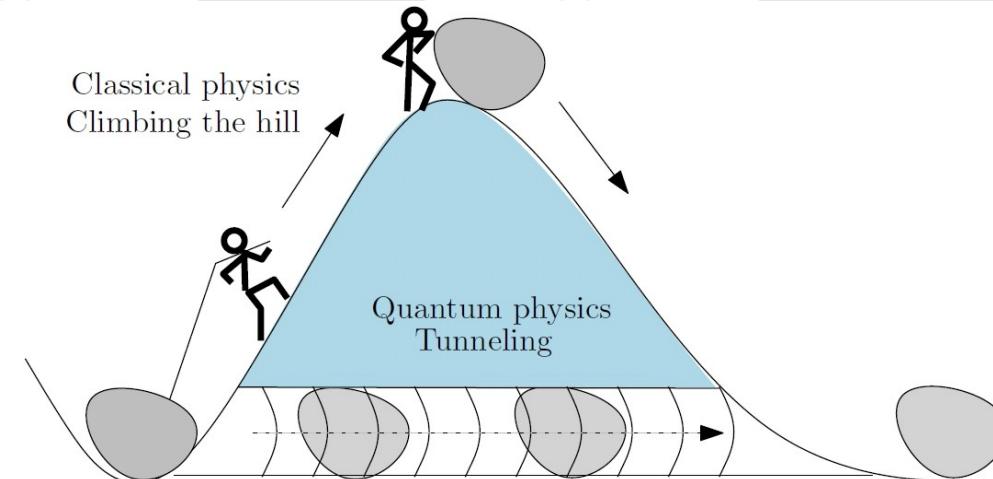
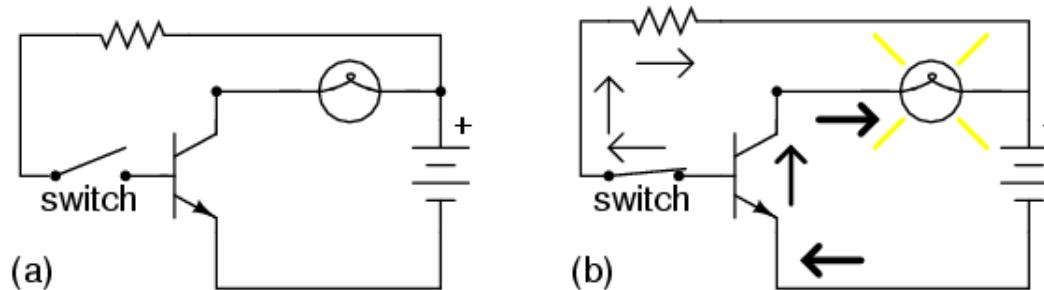


Time period:- Future

Technology:- Quantum  
Computing

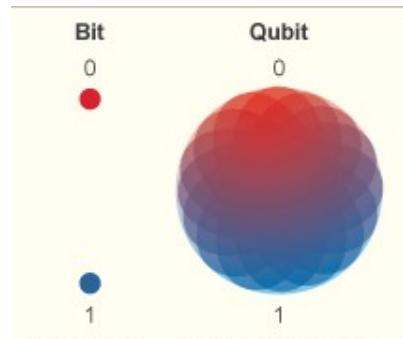
# What is the need of quantum computers?

32 nm  
22 nm  
14 nm  
10 nm  
7 nm  
5 nm  
END



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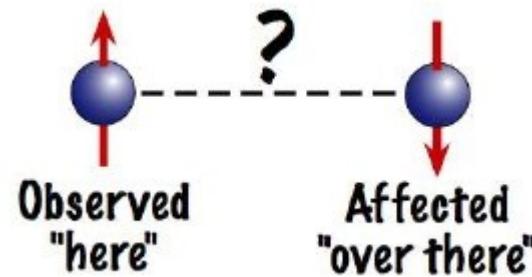
# QUBIT



A bit can only  
be a 0 or 1

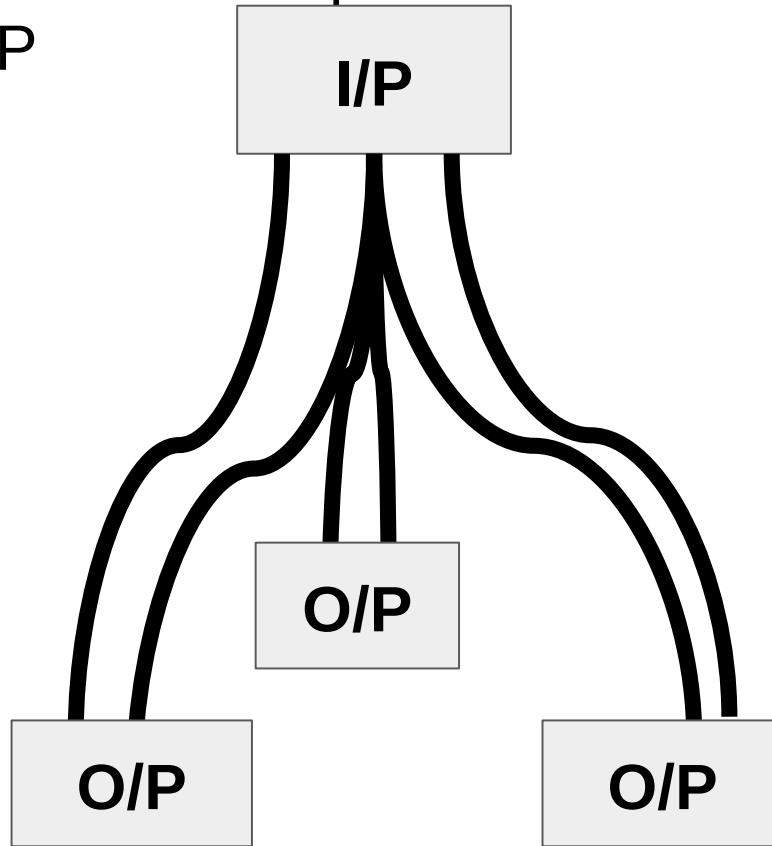
Superposition can be  
represented anywhere  
on a sphere.

# Superposition

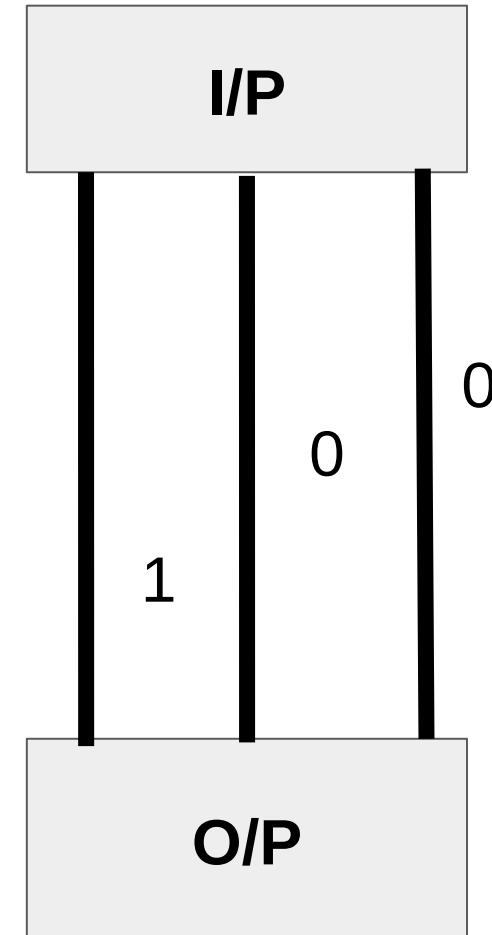


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00110011

Quantum computer  
O/P



Digital  
O/P



00110010  
00110100

This were the various generation of computers through which we got till today and the possible future of computing data.

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01010100 01101000 01100001  
01101110 01101011 00100000  
01111001 01101111 01110101

(Thank you)

## Reference:-

<https://www.qbit.it/lab/bintext.php> for (01001000 01001001)

<http://sites.harvard.edu/~chsi/markone/futurism.html> (mark 1)

<https://www.google.co.in/imgres?imgurl=https%3A%2F%2Fourworldindata.org%2Fwp-content%2Fuploads%2F2013%2F05%2FTransistor-Cou nt-over-time.png&imgrefurl=https%3A%2F%2Fourworldindata.org%2Ftechnological-progress%2F&docid=BzqaLBX3q2cKhM&tbnid=oVM3Tla jMxNbM%3A&vet=1&w=3000&h=2191&bih=613&biw=1024&q=moore%27s%20law&ved=0ahUKEwi7hvKbmtbSAhUBuY8KHR ICwsQMwg4KA gwCA&iact=mrc&uact=8#h=2191&imgrc=oVM3Tla jMxNbM:&vet=1&w=3000>

(moors law)

[http://www.gadgette.com/wp-content/uploads/2016/04/DWave\\_128chip.jpg](http://www.gadgette.com/wp-content/uploads/2016/04/DWave_128chip.jpg)(quanum computers)

[https://kimminseodimension.files.wordpress.com/2014/04/image\\_127.jpg](https://kimminseodimension.files.wordpress.com/2014/04/image_127.jpg)(quatum tounling)

[https://smd-prod.s3.amazonaws.com/science-red/s3fs-public/mnt/medialibrary/2004/01/20/23jan\\_entangled\\_resources/entangled\\_sm.jpg](https://smd-prod.s3.amazonaws.com/science-red/s3fs-public/mnt/medialibrary/2004/01/20/23jan_entangled_resources/entangled_sm.jpg)

(entanglement)

<http://cdn.wonderfulengineering.com/wp-content/uploads/2014/06/What-is-Transistor-12.jpg>(transistor)

<https://www.google.co.in/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&ved=0ahUKEwiElqu6tNbSAhUFuo8KHV8nCP0QjBwIBA&url=http%3A%2F%2Fwww.corememoryshield.com%2Fvintage-core-full.jpg&bvm=bv.149397726,d.c2I&psig=AFQjCNFx-p8gmAS2-nUBw0fNqSeQyrkhHA &ust=148959512477440>

(corememory)

[https://upload.wikimedia.org/wikipedia/commons/thumb/d/d7/Desktop\\_computer\\_clipart - Yellow\\_theme.svg/1280px-Desktop\\_computer\\_clipart - Yellow\\_theme.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/d/d7/Desktop_computer_clipart - Yellow_theme.svg/1280px-Desktop_computer_clipart - Yellow_theme.svg.png)

(computer)

[https://www.google.co.in/imgres?imgurl=http%3A%2F%2Fwww.techiwarehouse.com%2Fuserfiles%2F1956Transistors.png&imgrefurl=http%3A%2F%2Fwww.techiwarehouse.com%2Fengine%2Fa046ee08%2FGenerations-of-Computer&docid=9f\\_YbHT8i1zTMM&tbnid=ItdmWmcrzUN H5M%3A&vet=1&w=627&h=494&bih=662&biw=1024&q=First%20generation%20of%20computers&ved=0ahUKEwi-rZPHudbSAhXFtY8KHdP0 DQsQMwhXKB0wHQ&iact=mrc&uact=8#h=494&imgrc=ItdmWmcrzUNH5M:&vet=1&w=627](https://www.google.co.in/imgres?imgurl=http%3A%2F%2Fwww.techiwarehouse.com%2Fuserfiles%2F1956Transistors.png&imgrefurl=http%3A%2F%2Fwww.techiwarehouse.com%2Fengine%2Fa046ee08%2FGenerations-of-Computer&docid=9f_YbHT8i1zTMM&tbnid=ItdmWmcrzUN H5M%3A&vet=1&w=627&h=494&bih=662&biw=1024&q=First%20generation%20of%20computers&ved=0ahUKEwi-rZPHudbSAhXFtY8KHdP0 DQsQMwhXKB0wHQ&iact=mrc&uact=8#h=494&imgrc=ItdmWmcrzUNH5M:&vet=1&w=627)

(secound gen computer)[http://ecx.images-amazon.com/images/I/81fVND6gGHL.\\_SL1500\\_.jpg](http://ecx.images-amazon.com/images/I/81fVND6gGHL._SL1500_.jpg)(laptop)

<http://oldcomputers.net/pics/appleii-system.jpg>(apple 2)

[http://www.popsci.com/sites/popsci.com/files/styles/large\\_1x/public/import/2013/images/2009/01/2inhand\\_white.jpg?itok=Meucnajg](http://www.popsci.com/sites/popsci.com/files/styles/large_1x/public/import/2013/images/2009/01/2inhand_white.jpg?itok=Meucnajg)(hand held)

[http://2.bp.blogspot.com/-lbtMWQa9egw/VBg\\_laE20CI/AAAAAAAABY/Pxz21GDKHJo/s1600/3rd.jpg](http://2.bp.blogspot.com/-lbtMWQa9egw/VBg_laE20CI/AAAAAAAABY/Pxz21GDKHJo/s1600/3rd.jpg)(hend held)

<http://www.nothonsecurityonline.com/security-center/evolution-of-computers.html>(data)