CS101

Topic-001. Introduction To Computer Science

1. What is Computer Science

Computer Science is the study of

- **Hardware / Software**
- **Programming**
- **Networks**
- **Graphics**
- **Robots**
- **Security**
- **Database**
- **Algorithmic Solution**
- **Information Processing**

2. Why Computer Science

Name of fields in Computer Science

Application:

- **Telecom**
- **Banks**
- **Hospitals**
- **Software Houses**
- **Service Industry**
- **Pak Army**
- **Freelancing**

Top 10 Jobs in US :

- **Artificial intelligence & Machine Learning**
- **Data Science**
- **Virtual Reality**
- **LoT**
- **Back – End Developer**
- **Front – End Developer**
- **UI Designer**
- **Full – Stack Engineer**
- **IT Manager**
- **Quality Assurance Expert**

1) Hardware:

Computer Hardware is the collection of physical parts of computer system. Computer hardware is what you can physically touch.

Exemples: Monitor , Keyboard, Mouse, Hard drive & Motherboard etc.

2) Software:

Computer Software is also called Software , is a set of instructions and its Documentations that tells a computer what to do and how to perform a task.

Exemples: Operating Sysytems & Applications etc.

3) Programing:

Computer programming is the process of designing and building an executable computer program for accomplishing a specific computing task. Like as C, C++, Java & Python etc is a programing languages.

4) Networks:

A computer network is a set of computers connected for the purpose of sharing resources.

Resources of Networks:

1) Internet
2) Printer

And others shareing resources

5) Graphics:

Computer graphics is the discipline of generating images with the aid of computers.

Used of Applications:

photography, film, video games, cell phone and computer display

6) Robots:

A robot is a machine—especially one programmable by a computer— capable of carrying out a complex series of actions automatically. Robots can be guided by an external control device or the control may be embedded within.

7) Database:

Database, also called electronic database, any collection of data, or information, that is specially organized for rapid search and retrieval by a computer.

- **DBMS**

  A database management system (DBMS) extracts information from the database in response to queries.

8) Algorithmic Solutions :

An algorithm is a set of instructions designed to perform a specific task.

9) Algorithmic Solutions:

Information processing refers to the manipulation of digitized information by computers and other digital electronic equipment, known collectively as information technology (IT).

Exemples: business software, operating systems, computers, networks and mainframes.

Topic-002. Breadth first learning

1. Breadth First Learning

This course will give a basic introduction to almost all courses of Computer Science. Such a strategy of learning is known as **Breadth First Learning**. The other strategy is called **Depth First Learning** . The Breadth First Learning helps students to first know what they will be learning in the whole degree program.

We will cover:

1. Abstract view of all major courses in CS
2. Understanding what will be studied in CS
3. Why each course is important
4. Clarifying the bigger Picture

Introduction to the topics that will be covered in this course:

1) **Search Engine Usage Techniques**
2) **History of Computing**
3) **Data Storage**
4) **Data Manipulation**
5) **Operating System**
6) **Networking and the Internet**
7) **Algorithms**
8) **Programming Languages**
9) **Software Engineering**
10) **Data Abstraction**
11) **Database Systems & DBMS**
12) **Artificial Intelligence**
13) **CS impact on society**
14) **Content Filtering, Spam, International laws**
15) **Word Processing**
16) **Presentations Development**
17) **Spreadsheet**
18) **Database MS Access**
19) **Web Page Development**

Topic-004. Searching Tricks

SEARCHING TRICKS

- **Weather Searching**

LAHORE

- **Performing Calculations on Google**

1. 12-5
2. Sin 90
3. Tan 80
4. 80/100*200
5. Subtract 10 from 30

 Currency Conversion

1. Kph in Mph
2. m in cm
3. Pakistan Cricket team
4. Baadshahi Mosque
5. Minar e Pakistan

Topic-005. Search Operators-01

1. Search on Social Media:

You can add "@" symbol for use Search on Social media . Such as @Facbook & @Twitter etc.

2. Search For a Price:

Put pkr in front of a number. For example , Laptop pkr 50000.

3. Search Hash Tag:

On Social media, sometimes, a hash tag is very popular. Exemple , #education.

Topic-006. Search Operators-02

1. Searching within the range:

If you want to search within the range of number, you can use two dots. For example: "laptop pkr25000.

pkr35000".

2. Boolean Operators:

We can use Boolean operators specially "And" "Or" to find relevant page. For Exemple : Computer AND Science ,Computer OR Science , Computer | Science.

3. Search With a Specific Website:

If you are interested to search the query in a website. When you write like

- o "Virtual university" site:youtube.com

4. Search Related Website:

- ✓ Related:youtube.com

5. Search Cached Version:

- ✓ Cashe:youtube.come

6. Search PDF & ext:

- ✓ "virtual university" filetype:pdf
- ✓ "Virtual university" ext:pd

Topic-007. Search Operators-03

1. Stocks Operator

Using this operator, we can find the trend of the stock market for a particular company.

- • Stocks:apple
- • Stocks:Sumsang

2. Map Operator

- • map:Lahore

3. Movie Operator

- • Movie:steve jobs

4. Compare Food

- • https://www.myfooddata.com/

5. Define Operator

- Define:Computer

6. Image Search
 https://images.google.com/

7. Tilt

This is an interesting option available at Google. Using this option, you can perform number of funny things with the shown screen of the Google. For example, you can rotate the Google screen to 360 degree etc. To do it type the following query:

- o Tilt

On the show results, select the appropriate link like: https://elgoog.im/tilt/ and then perform the interesting tricks with the Google screen.

Topic-008. Advance Search Operators

1. **Intitle:**

   This operator will give us only those web pages in which the searched term appears in the title of the web pages. It's Written in double quotation

- Intitle:"iPhone vs. android"

2. **Allintitle:**

   This operator is allintitle without double quotation. This will find all those web pages in which any of the word.

- allintitle:iphone vs. android

3. **Inurl and Allinurl**:

The "inurl" operator finds all those web pages which contains the mentioned query in the url of the web pages.

- inurl:2018 "virtual university"

4. **Intext and allintext:**

If we search anywhere in the body of the document, we can use intext operator.

- intext:"virtual university admissions 2018"
- allintext:virtual university admissions 2018

5. **Proximity Search:**

If we want search two words Like As:

- Education
- Virtual University   then you search like

✓ education AROUND(3) "virtual university"

Topic-009. What you should not search on internet

1. Avoiding Ads:

- Your email
- Medical issues and drugs
- Your name
- Your location
- Your favorite things

2. Dangerous To Search:

- pressure cooker bomb story
- Attacks
- Suicide bomb
- Killers/Underworld
- Terrifying insects
- Killing animals
- Poisons
- Murder
- Medical Symptoms
- How to make computer Virus
- Hacking
- About Religion
- About Politics

3. Avoid Cyber-Security Attacks:

- Free Music
- Some Free Softwares

4. Unpleasent Result:

- Smokers Lungs
- Skin Condition