Cyber Security used to protect individuals , organizations and governments from digital attacks by protect network system from unauthorized user.

Personal Data : any data can identify you offline (in real Life)

Who intreseted in your data ?

(1) ISP (2) Criminals (3) Advertisers (4) Website Cookies (5)Search Engine and Social Media

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The Security Cube

(1) Foundational Principles for Protecting Information:

CIA

Confidentiality : Rules to Prevent Unauthorized Disclose By Id Proof,Encrypthion , Two-Factor Authentication.

Integrity : Ensure There is not accidental modification By Hash , Checksum.

Avalability : only Authorized users can access the data .

(2) Protection of information in each state

we must protect information in each state and in each form like in :

-Processing : when data used to perform operation.

-Storage : Data in Memory or HDD or SSD or USB .

-Transmission : Data travels between iformation systems .

(3)Security Measures Used to Protect Data

the considertion we must take to ensure the security of data

-Awarness , Training and Educatioon : we must train the employees how to secure their devices and they must have a very good security awarness.

-Technology :Software & Hardware used To protect Information System

-policy , Procedure & Adminstrative control : the system admin must put a secure policies because that help to secure the information system from any unsecure action any employee may take

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Attacker : individual or group attemp to expliot vulnerbilities .

Types :

(1) Amateurs (Script Kiddies) :They just take tool or already written Scriot to try them .

(2) Hacker :-White Hacker = when they find a vulnerbility they inform the organization to solve it

-gray Hacker : when they find a vulnerbility may inform the organization to solve it if they will take advantage of that or they may share it in the intenet

-Black Hacker : when they find a vulnerbility they take advantages of it and they will harm any thing if they can

(3) Organized Hacker : someone who study in this field and aware people about the security and attacks .

Types of Threats:

Internal : by an employee usb , malware websites , miss handeling Data.

External : -Cyberwarfore : to harm or shutdown another organization system

-stuxnet : once an attacker find the vulnerbility he take advantages of it , that affect more control system like PLC, SCADA .

it sometime called ZERO-DAY Attack

-etc ..