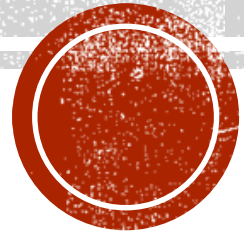
UNDERSTAND THE PURPOSE AND ROLE OF CODES OF CONDUCT PRODUCED BY PROFESSIONAL BODIES FOR THE USE OF DIGITAL:

- British Computer Society (BCS) Code of Conduct
- The Institution of Analysts and Programmers Code of Conduct.



- Regardless of whether the organization is legally mandated to have a code of conduct (as public companies are), every organization should have one.
- A code has value as both an internal guideline and an external statement of corporate values and commitments.
- A well-written code of conduct clarifies an organization's mission, values and principles, linking them with standards of professional conduct.
- The code articulates the values the organization wishes to foster in leaders and employees and, in doing so, defines desired behaviour.
- As a result, written codes of conduct or ethics can become benchmarks against which individual and organizational performance can be measured.
- Additionally, a code is a central guide and reference for employees to support day-to-day decision making.
- A code encourages discussions of ethics and compliance, empowering employees to handle ethical dilemmas they encounter in everyday work.
- It can also serve as a valuable reference, helping employees locate relevant documents, services and other resources related to ethics within the organization.

- Externally, a code serves several important purposes:
- **Compliance**: Legislation (i.e., the Sarbanes-Oxley Act of 2002) requires individuals serving on boards and organizational leaders of public companies to implement codes or clearly explain why they have not.
- **Marketing**: A code serves as a public statement of what the company stands for and its commitment to high standards and right conduct.
- **Risk Mitigation**: Organizations with codes of ethics, and who follow other defined steps in the U.S. Sentencing Commission's Federal Sentencing Guidelines, can reduce the financial risks associated with government fines for ethical misconduct by demonstrating they have made a "good faith effort" to prevent illegal acts.
  - For additional information about the benefits of a code, see *Creating a Workable Company Code of Ethics* pp. 3-4 and 6-9.

ACTIVITY:

- What is the purpose and role of codes of conduct produced by professional bodies for the use of digital?
- Include the following in your response:
  - What is a code of conduct in the workplace?
  - Why is a code of conduct important?

UNDERSTAND THE GUIDELINES PROVIDED IN PROFESSIONAL CODES OF PRACTICE IN TERMS OF:

- Professional responsibilities (quality of work, meeting deadlines, communication, confidentiality, trust)
- Contribution to society
- Safety
- Security and privacy
- Innovation.

THE BCS CODE OF PRACTICE IS CONCERNED WITH PROFESSIONAL RESPONSIBILITY.

- All members have responsibilities:
  - to clients, to users, to the State and society at large.
- Those members who are employees also have responsibilities to their employers and employers' customers and, often, to a Trade Union.
- In the event of apparent clash in responsibilities, obligations or prescribed practice the Society's Secretary-General should be consulted at the earliest opportunity.
- Members shall:
  - only offer to do work or provide a service, which is within their professional competence and shall not claim to any level of competence, which they do not possess, and any professional opinion, which they are asked to give, shall be objective and reliable.
  - accept professional responsibility for their work and for the work of their subordinates and associates under their direction, and shall not terminate any assignment except for good reason and on reasonable notice.

ACM CODE OF ETHICS AND PROFESSIONAL CONDUCT

- Computing professionals' actions change the world.
- To act responsibly, they should reflect upon the wider impacts of their work, consistently supporting the public good.
- The ACM Code of Ethics and Professional Conduct ("the Code") expresses the conscience of the profession.
- Section 1 outlines fundamental ethical principles that form the basis for the remainder of the Code.
- ***Section 2 addresses additional, more specific considerations of professional responsibility.***
- Section 3 guides individuals who have a leadership role, whether in the workplace or in a volunteer professional capacity. Commitment to ethical conduct is required of every ACM member, ACM SIG member, ACM award recipient, and ACM SIG award recipient.
- Principles involving compliance with the Code are given in Section 4.

2. PROFESSIONAL RESPONSIBILITIES.
A COMPUTING PROFESSIONAL SHOULD...

- ***2.1 Strive to achieve high quality in both the processes and products of professional work.***
  - Computing professionals should insist on and support high quality work from themselves and from colleagues.
  - The dignity of employers, employees, colleagues, clients, users, and anyone else affected either directly or indirectly by the work should be respected throughout the process.
  - Computing professionals should respect the right of those involved to transparent communication about the project.
  - Professionals should be cognizant of any serious negative consequences affecting any stakeholder that may result from poor quality work and should resist inducements to neglect this responsibility.

A COMPUTING PROFESSIONAL SHOULD…

- ***2.2 Maintain high standards of professional competence, conduct, and ethical practice.***
  - High quality computing depends on individuals and teams who take personal and group responsibility for acquiring and maintaining professional competence.
  - Professional competence starts with technical knowledge and with awareness of the social context in which their work may be deployed.
  - Professional competence also requires skill in communication, in reflective analysis, and in recognizing and navigating ethical challenges.
  - Upgrading skills should be an ongoing process and might include independent study, attending conferences or seminars, and other informal or formal education.
  - Professional organizations and employers should encourage and facilitate these activities.

A COMPUTING PROFESSIONAL SHOULD...

- ***2.3 Know and respect existing rules pertaining to professional work.***
  - "Rules" here include local, regional, national, and international laws and regulations, as well as any policies and procedures of the organizations to which the professional belongs.
  - Computing professionals must abide by these rules unless there is a compelling ethical justification to do otherwise. Rules that are judged unethical should be challenged.
  - A rule may be unethical when it has an inadequate moral basis or causes recognizable harm.
  - A computing professional should consider challenging the rule through existing channels before violating the rule.
  - A computing professional who decides to violate a rule because it is unethical, or for any other reason, must consider potential consequences and accept responsibility for that action.

A COMPUTING PROFESSIONAL SHOULD…

- 2.4 Accept and provide appropriate professional review.
  - High quality professional work in computing depends on professional review at all stages.
  - Whenever appropriate, computing professionals should seek and utilize peer and stakeholder review.
  - Computing professionals should also provide constructive, critical reviews of others' work.

A COMPUTING PROFESSIONAL SHOULD…

- ***2.5 Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks.***
  - Computing professionals are in a ***position of trust,*** and therefore have a special responsibility to provide objective, credible evaluations and testimony to employers, employees, clients, users, and the public.
  - Computing professionals should strive to be perceptive, thorough, and objective when evaluating, recommending, and presenting system descriptions and alternatives.
  - Extraordinary care should be taken to identify and mitigate potential risks in machine learning systems.
  - A system for which future risks cannot be reliably predicted requires frequent reassessment of risk as the system evolves in use, or it should not be deployed.
  - Any issues that might result in major risk must be reported to appropriate parties.

A COMPUTING PROFESSIONAL SHOULD...

- **2.6 Perform work only in areas of competence.**
  - A computing professional is responsible for evaluating potential work assignments.
  - This includes evaluating the work's feasibility and advisability, and making a judgment about whether the work assignment is within the professional's areas of competence.
  - If at any time before or during the work assignment the professional identifies a lack of a necessary expertise, they must disclose this to the employer or client.
  - The client or employer may decide to pursue the assignment with the professional after additional time to acquire the necessary competencies, to pursue the assignment with someone else who has the required expertise, or to forgo the assignment.
  - A computing professional's ethical judgment should be the final guide in deciding whether to work on the assignment.

A COMPUTING PROFESSIONAL SHOULD…

- **2.7 Foster public awareness and understanding of computing, related technologies, and their consequences.**
  - As appropriate to the context and one's abilities, computing professionals should share technical knowledge with the public, foster awareness of computing, and encourage understanding of computing.
  - These communications with the public should be clear, respectful, and welcoming.
  - Important issues include the impacts of computer systems, their limitations, their vulnerabilities, and the opportunities that they present.
  - Additionally, a computing professional should respectfully address inaccurate or misleading information related to computing.

A COMPUTING PROFESSIONAL SHOULD…

- ***2.8 Access computing and communication resources only when authorized or when compelled by the public good.***
  - Individuals and organizations have the right to restrict access to their systems and data so long as the restrictions are consistent with other principles in the Code.
  - Consequently, computing professionals should not access another's computer system, software, or data without a reasonable belief that such an action would be authorized or a compelling belief that it is consistent with the public good.
  - A system being publicly accessible is not sufficient grounds on its own to imply authorization.
  - Under exceptional circumstances a computing professional may use unauthorized access to disrupt or inhibit the functioning of malicious systems; extraordinary precautions must be taken in these instances to avoid harm to others.

A COMPUTING PROFESSIONAL SHOULD...

- **2.9 Design and implement systems that are robustly and usably secure.**
  - Breaches of computer security cause harm. Robust security should be a primary consideration when designing and implementing systems.
  - Computing professionals should perform due diligence to ensure the system functions as intended, and take appropriate action to secure resources against accidental and intentional misuse, modification, and denial of service.
  - As threats can arise and change after a system is deployed, computing professionals should integrate mitigation techniques and policies, such as monitoring, patching, and vulnerability reporting.
  - Computing professionals should also take steps to ensure parties affected by data breaches are notified in a timely and clear manner, providing appropriate guidance and remediation.
  - To ensure the system achieves its intended purpose, security features should be designed to be as intuitive and easy to use as possible.
  - Computing professionals should discourage security precautions that are too confusing, are situationally inappropriate, or otherwise inhibit legitimate use.
  - In cases where misuse or harm are predictable or unavoidable, the best option may be to not implement the system.

GENERAL ETHICAL PRINCIPLES.
A COMPUTING PROFESSIONAL SHOULD...

A COMPUTING PROFESSIONAL SHOULD…

- ***1.1 <u>Contribute to society</u> and to human well-being, acknowledging that all people are stakeholders in computing.***
  - This principle, which concerns the quality of life of all people, affirms an obligation of computing professionals, both individually and collectively, to use their skills for the benefit of society, its members, and the environment surrounding them.
  - This obligation includes promoting fundamental human rights and protecting each individual's right to autonomy.
  - An essential aim of computing professionals is to minimize negative consequences of computing, including threats to health, safety, personal security, and privacy.
  - When the interests of multiple groups conflict, the needs of those less advantaged should be given increased attention and priority.
  - Computing professionals should consider whether the results of their efforts will respect diversity, will be used in socially responsible ways, will meet social needs, and will be broadly accessible.
  - They are encouraged to actively contribute to society by engaging in pro bono or volunteer work that benefits the public good.
  - In addition to a safe social environment, human well-being requires a safe natural environment. Therefore, computing professionals should promote environmental sustainability both locally and globally.

A COMPUTING PROFESSIONAL SHOULD…

- ***1.2 Avoid harm.***
- In this document, "harm" means negative consequences, especially when those consequences are significant and unjust. ***Examples of harm include*** unjustified physical or mental injury, unjustified destruction or disclosure of information, and unjustified damage to property, reputation, and the environment. This list is not exhaustive.
- Well-intended actions, including those that accomplish assigned duties, may lead to harm. When that harm is unintended, those responsible are obliged to undo or mitigate the harm as much as possible.
- Avoiding harm begins with careful consideration of potential impacts on all those affected by decisions. When harm is an intentional part of the system, those responsible are obligated to ensure that the harm is ethically justified. In either case, ensure that all harm is minimized.
- To minimize the possibility of indirectly or unintentionally harming others, computing professionals should follow generally accepted best practices unless there is a compelling ethical reason to do otherwise.
- Additionally, the consequences of data aggregation and emergent properties of systems should be carefully analysed. Those involved with pervasive or infrastructure systems should also consider Principle 3.7.
- A computing professional has an additional obligation to report any signs of system risks that might result in harm. If leaders do not act to curtail or mitigate such risks, it may be necessary to "blow the whistle" to reduce potential harm.
- However, capricious or misguided reporting of risks can itself be harmful.
- Before reporting risks, a computing professional should carefully assess relevant aspects of the situation.

A COMPUTING PROFESSIONAL SHOULD…

- ***1.3 Be honest and trustworthy.***
- Honesty is an essential component of trustworthiness.
- A computing professional should be transparent and provide full disclosure of all pertinent system capabilities, limitations, and potential problems to the appropriate parties.
- Making deliberately false or misleading claims, fabricating or falsifying data, offering or accepting bribes, and other dishonest conduct are violations of the Code.
- Computing professionals should be honest about their qualifications, and about any limitations in their competence to complete a task.
- Computing professionals should be forthright about any circumstances that might lead to either real or perceived conflicts of interest or otherwise tend to undermine the independence of their judgment. Furthermore, commitments should be honoured.
- Computing professionals should not misrepresent an organization's policies or procedures, and should not speak on behalf of an organization unless authorized to do so.

A COMPUTING PROFESSIONAL SHOULD…

- ***1.4 Be fair and take action not to discriminate.***
- The values of equality, tolerance, respect for others, and justice govern this principle. Fairness requires that even careful decision processes provide some avenue for redress of grievances.
- Computing professionals should foster fair participation of all people, including those of underrepresented groups.
- Prejudicial discrimination on the basis of age, colour, disability, ethnicity, family status, gender identity, labour union membership, military status, nationality, race, religion or belief, sex, sexual orientation, or any other inappropriate factor is an explicit violation of the Code.
- Harassment, including sexual harassment, bullying, and other abuses of power and authority, is a form of discrimination that, amongst other harms, limits fair access to the virtual and physical spaces where such harassment takes place.
- The use of information and technology may cause new, or enhance existing, inequities.
- Technologies and practices should be as inclusive and accessible as possible and computing professionals should take action to avoid creating systems or technologies that disenfranchise or oppress people.
- Failure to design for inclusiveness and accessibility may constitute unfair discrimination.

A COMPUTING PROFESSIONAL SHOULD…

- ***1.5 Respect the work required to produce new ideas, inventions, creative works, and computing artifacts.***
- Developing new ideas, inventions, creative works, and computing artifacts creates value for society, and those who expend this effort should expect to gain value from their work.
- Computing professionals should therefore credit the creators of ideas, inventions, work, and artifacts, and respect copyrights, patents, trade secrets, license agreements, and other methods of protecting authors' works.
- Both custom and the law recognize that some exceptions to a creator's control of a work are necessary for the public good.
- Computing professionals should not unduly oppose reasonable uses of their intellectual works.
- Efforts to help others by contributing time and energy to projects that help society illustrate a positive aspect of this principle.
- Such efforts include free and open source software and work put into the public domain. Computing professionals should not claim private ownership of work that they or others have shared as public resources.

A COMPUTING PROFESSIONAL SHOULD…

- ***1.6 Respect privacy.***
- The responsibility of respecting privacy applies to computing professionals in a particularly profound way.
- Technology enables the collection, monitoring, and exchange of personal information quickly, inexpensively, and often without the knowledge of the people affected.
- Therefore, a computing professional should become conversant in the various definitions and forms of privacy and should understand the rights and responsibilities associated with the collection and use of personal information.
- Computing professionals should only use personal information for legitimate ends and without violating the rights of individuals and groups.
- This requires taking precautions to prevent re-identification of anonymized data or unauthorized data collection, ensuring the accuracy of data, understanding the provenance of the data, and protecting it from unauthorized access and accidental disclosure.
- Computing professionals should establish transparent policies and procedures that allow individuals to understand what data is being collected and how it is being used, to give informed consent for automatic data collection, and to review, obtain, correct inaccuracies in, and delete their personal data.
- Only the minimum amount of personal information necessary should be collected in a system. The retention and disposal periods for that information should be clearly defined, enforced, and communicated to data subjects.
- Personal information gathered for a specific purpose should not be used for other purposes without the person's consent.
- Merged data collections can compromise privacy features present in the original collections.
- Therefore, computing professionals should take special care for privacy when merging data collections.

A COMPUTING PROFESSIONAL SHOULD…

- ***1.7 Honour confidentiality.***
- Computing professionals are often entrusted with confidential information such as trade secrets, client data, non-public business strategies, financial information, research data, pre-publication scholarly articles, and patent applications.
- Computing professionals should protect confidentiality except in cases where it is evidence of the violation of law, of organizational regulations, or of the Code.
- In these cases, the nature or contents of that information should not be disclosed except to appropriate authorities.
- A computing professional should consider thoughtfully whether such disclosures are consistent with the Code.

ACTIVITY:

Create a set of codes of practice for completing your practical tasks on your T Level qualification.

Think, Pair, Share with your group.

- Example Code of Practice: https://www.businessballs.com/business-startup/code-of-practice-sample/
- Examples of good ones: https://i-sight.com/resources/18-of-the-best-code-of-conduct-examples/
- Create your own code of practice for yourselves and for your class.

COMPLETE THIS ACTIVITY: COMPARE AND CONTRAST CODES OF CONDUCT

- **Take the three main codes of conduct for the IT industry and create a poster or infographics that compares them.**
  - Pay particular attention to specific differences between the codes of conduct and how they try to deal with issues in different ways.
    1. *Do you think there are any gaps in the codes of conduct?*
    2. *How could these be identified and mitigated?*
    3. *Which code of conduct do you think is the best and why?*
- Worksheets /templates:
  - https://www.bcs.org/membership/become-amember/bcs-code-of-conduct/
  - https://www.iap.org.uk/main/about/code-of-conductfor-members/
  - https://www.acm.org/code-of-ethics

4.2.3 IMPACT OF IMPLEMENTING GUIDELINES

- ***The use of computers has brought about environmental, ethical and legal issues and concerns.***
- ***These increasingly affect people's daily lives.***
- ***Ethical issues***
  - **Ethics** are moral principles, or rules, that govern a person's attitudes and behaviour.
  - Ethics apply to the use of computers as much as they do to other things in life.
  - Ethical issues in computing include issues of privacy and cybersecurity.

ACTIVITY:

- Work through the revision exercise here: https://www.bbc.co.uk/bitesize/guides/zd726yc/revision/1

- Go through the article below and assess the impact of how the privacy and Covid 19 have impacted IT regulations and guidelines for company monitoring and codes of conduct.
- Article: https://www.irishtimes.com/opinion/public-must-have-confidence-in-covid-19-contact-tracing-app-1.4233505

-

4.2.4 ISO

- ISO is an independent, non-governmental international organisation with a membership of 164 national standards bodies.
- Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market relevant International Standards that support innovation and provide solutions to global challenges.
- Website: https://www.iso.org/home.html
- Video here: https://www.itgovernance.co.uk/iso27001

ISO/IEC 27000 - INFORMATION SECURITY MANAGEMENT SYSTEMS

- Information security is at the fore of global attention, with rapid increases in cyber threats.
- The 27000 category of standards ensures the safety of information assets.
- These standards help organisations manage the security of assets such as intellectual property, financial and employee data, and information held in trust for third parties.
- ISO/IEC 27001 is the most popular standard in this category, and stipulates the specifications for the implementation of an Information Security Management System (ISMS).
- Main Link: https://www.iso.org/isoiec-27001-information-security.html

4.2.4 WORLD WIDE WEB CONSORTIUM (W3C®)

- The World Wide Web Consortium (W3C) is an international community where Member organizations, a full-time staff, and the public work together to develop Web standards.
- Led by Web inventor and Director Tim Berners-Lee and CEO Jeffrey Jaffe, W3C's mission is to lead the Web to its full potential.

- Link: https://www.w3.org/

4.2.4 W3C STANDARDS

- W3C standards define an **Open Web Platform** for application development that has the unprecedented potential to enable developers to build rich interactive experiences, powered by vast data stores, that are available on any device.
- Although the boundaries of the platform continue to evolve, industry leaders speak nearly in unison about how HTML5 will be the cornerstone for this platform.
- But the full strength of the platform relies on many more technologies that W3C and its partners are creating, including CSS, SVG, WOFF, the Semantic Web stack, XML, and a variety of APIs.
- W3C develops these technical specifications and guidelines through a process designed to maximise consensus about the content of a technical report, to ensure high technical and editorial quality, and to earn endorsement by W3C and the broader community.
- https://www.w3.org/standards/

4.2.5 ACCEPTABLE USE POLICIES

- Watch the following video and think about how AUPs work in reality
- Video from here: https://www.youtube.com/watch?v=65B6coVMhhU

ACTIVITY

- **Create an Acceptable Use Policy document (AUP)**
- Link: https://www.computerdisposals.co.uk/blog/how-to-create-an-it-acceptable-use-policy-for-employees/
- Sample: https://www.getsafeonline.org/themes/site_themes/getsafeonline/download_centre/Sample_Acceptable_Usage_Policy.pdf