PROFESSIONALISM
You notice a coworker using a work computer to play video games. This is against company policy. Should you report this to your supervisor?

a) Yes
b) No
You work for a company that produces home surveillance technology. A coworker has created a backdoor login in the software. Should you report this to your supervisor?

a) Yes
b) No
Professional

- Occupation where decisions and actions have significant social effects (e.g. doctors, lawyers)
- Roles and responsibilities exceed those of non-professionals
Attributes of a Profession

1. Work that requires sophisticated skills, the use of judgment, and the exercise of discretion.

2. Membership requires extensive formal education.

3. Public allows special societies or organizations to set standards.

4. Significant public good results from the practice.
Conflict of Interest

• Multiple competing interests
  – Professional
  – Financial
  – Familial

• Professional decision making process is potentially compromised

• *Perception* of a conflict can be just as bad
PROFESSIONAL CODES
IEEE Code of Ethics

1. to accept responsibility in making decisions consistent with the safety, health, and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;

2. to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;

3. to be honest and realistic in stating claims or estimates based on available data;

4. to reject bribery in all its forms;
IEEE Code of Ethics

5. to improve the understanding of technology; its appropriate application, and potential consequences;

6. to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;

7. to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;
IEEE Code of Ethics

8. to treat fairly all persons and to not engage in acts of discrimination based on race, religion, gender, disability, age, national origin, sexual orientation, gender identity, or gender expression;

9. to avoid injuring others, their property, reputation, or employment by false or malicious action;

10. to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.
You notice a coworker using a work computer to play video games. This is against company policy. Does the IEEE CoE suggest you should report this incident?

a) Yes  
b) No  
c) Unclear
You work for a company that produces home surveillance technology. A coworker has created a backdoor login in the software. Does the IEEE CoE suggest you should report this incident?

a) Yes
b) No
c) Unclear
ACM Code of Ethics (Section 1)

1. Contribute to society and human well-being
2. Avoid harm to others
3. Be honest and trustworthy
4. Be fair and take action not to discriminate
5. Honor property rights, including copyrights
6. Give proper credit for intellectual property
7. Respect the privacy of others
8. Honor confidentiality
ACM Code of Ethics (Section 2)

1. Strive to achieve the highest quality, effectiveness and dignity in both the process and products of professional work.

2. Acquire and maintain professional competence.

3. Know and respect existing pertinent laws

4. Accept and provide professional review
ACM Code of Ethics (Section 2)

5. Give comprehensive evaluations of computer systems, including analysis of possible risk

6. Honor contracts, agreements, and assigned responsibilities

7. Improve public understanding of computing and its consequences

8. Assess computing and communication resources only when authorized to do so
You notice a coworker using a work computer to play video games. This is against company policy. Does the ACM CoE suggest you should report this incident?

a) Yes  
b) No  
c) Unclear
You work for a company that produces home surveillance technology. A coworker has created a backdoor login in the software. Does the ACM CoE suggest you should report this incident?

a) Yes
b) No
c) Unclear
I could have done more. I should have done more.

Bob Ebeling, former NASA Engineer
Safety Critical Software

• A computer system that can have a direct life-threatening impact:
  – air traffic control
  – mass transportation
  – nuclear reactors
  – missile systems
  – medical equipment
  – design/architecture software
  – medical analysis software
Risk Assessment Factors

1. Voluntary vs. involuntary
2. Short-term vs. long-term
3. Expected probability
4. Reversible effects
5. Threshold levels
6. Delayed vs. immediate risk
Mitigating Risk

1. Design comply with applicable laws.
2. Design meet accepted practices.
3. Potentially safer designs were explored.
4. Potential misuses were anticipated.
5. Design was rigorously tested.

- Negligence - failure to take these steps
WHISTLEBLOWING
Whistleblowing

- Individual calls attention to negligence, abuses, or dangers that threaten the public interest
- “Sound the alarm” from within the organization
- Also a form of dissent
- Can have destructive side-effects
When to blow the whistle?

- Richard De George’s criteria
- Morally *permitted* to blow the whistle
  1. The product will do serious harm to the public
  2. The engineer has reported threat to supervisor
  3. The engineer has exhausted all internal procedures
- Morally *obligated* to blow the whistle
  4. The engineer has accessible, documented evidence that their view of the situation is correct
  5. The engineer has good reasons to believe that going public is necessary to bring about change
You work for a company that produces home surveillance technology. A coworker has created a backdoor login in the software. Your supervisor has dismissed your concerns.

a) Morally permitted to blow the whistle
b) Morally obligated to blow the whistle
c) Should not blow the whistle
RESPONSIBILITY, LIABILITY, AND ACCOUNTABILITY
Responsibility

• Moral responsibility is described in terms of *causality* and *intent*.
• If a moral agent *causes* harm, they bear some moral responsibility, regardless of intent.
• If a moral agent *intends* harm, they bear some moral responsibility, regardless of the outcome.
• Attributes blame (or praise).
Liability

• Liability is a *legal* concept, not moral.
• Blame or fault is not important.
• Compensation can be required *even when responsibility is not admitted.*
Accountability

- Not interested in assigning moral OR legal judgment
- Some individual or group is *answerable* for problems
- “Problem of many hands” - accountability is distributed in a large project or organization
For a successful technology, reality must take precedence over public relations, for nature cannot be fooled. - Richard Feynman