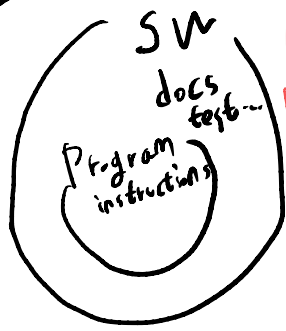# LECTURE 1.

SW
docs test...
Program instructions

Programs + Docs

[SW] costs **more to maintain** than it does to develop

SWE : An engineering discipline of early stage of system specification, sw production, theories & methods — test, management, tools, methods

Why does SWE important?
1. Relying on complex SW ← reliable & trustworthy economically & quickly
   60% Dev 40% Test
2. Cheap in the long run — changing is expensive

SW Process Activities (Fundamental)

SW specification — Customer defines req & const
↓
SW Development — Meet reqs, Maintainable, dependable, usable → Good SW.
↓
SW Validation — does it meet reqs?
↓
SW Evolution — reflect changing

essential attributes
1. Maintainability : considering evolve
2. Dependability & Security : no damage & fail
3. Efficiency : No waste resource (responsiveness, memory) processing time
4. Acceptability : understandable, usable and compatible

SW products
1. Generic products — Stand-alone, PC-sw Any customer. — Owned developer
2. Customized " — Comissioned by a specific customer. Cus

Ethics & Responsibility
1. Confidentiality
2. Competence : No misrepesent
3. Intellectual property rights

Issues
1. Heterogeneity : a variety of devices.
2. Changing : Business & society is changing.
3. Security & Trust