Computer Science Fundamentals

Seminar 1

Checkup

1. Make sure you use latest version of Chrome/Firefox

   In Chrome go **Settings -> About Chrome**
   Or copy chrome://settings/help to the address line and update to the latest version
   In Firefox go **Help -> About Firefox**
   Update to the latest version

   In case of problems let's communicate over the Telegram

   https://t.me/joinchat/BroIMhiOgEWVP8kZQagYZA

Intranet WLB links: join ontime, not before scheduled

BIS1, BIS4 groups Time: Sep 30, 2020 **09:00 AM**	https://intranet.wiut.uz/LearningMaterial/Videoconference/VCJoinURL?moduleId=559&id=65f45ac3-e05a-4489-9c03-6217399879da
BIS2, BIS3 groups Time: Sep 30, 2020 **11:00 AM**	https://intranet.wiut.uz/LearningMaterial/Videoconference/VCJoinURL?moduleId=559&id=9b91511d-38a1-49a5-a8ca-11e6986ff094
BIS5 group Time: Sep 30, 2020 **9:00 AM**	https://intranet.wiut.uz/LearningMaterial/Videoconference/VCJoinURL?moduleId=559&id=a9cb2f97-154a-4d50-ad68-60c5796d53d8
BIS6, BIS7 groups Time: Sep 30, 2020 **11:00 AM**	https://intranet.wiut.uz/LearningMaterial/Videoconference/VCJoinURL?moduleId=559&id=472ff703-e6d0-4b6c-8dc3-d0002cb25a38

If we have problems for over 15 minutes we will use Google Meet alternative (see next slide)

Move to alternative below if you have problems

BIS1, BIS4 groups Time: Sep 30, 2020 **09:00 AM**	https://meet.google.com/see-iwwk-xqw
BIS2, BIS3 groups Time: Sep 30, 2020 **11:00 AM**	https://meet.google.com/mpc-ktvk-doz
BIS5 group Time: Sep 30, 2020 **9:00 AM**	https://meet.google.com/dhb-zhtc-dwq
BIS6, BIS7 groups Time: Sep 30, 2020 **11:00 AM**	https://meet.google.com/zoi-ktms-jav

NB

Telegram group
https://t.me/joinchat/BroIMhiOgEWVP8kZQagYZA

Q&A
http://intranet.wiut.uz/LearningMaterial/Discussion/Details/649?moduleId=559

Contact details
Olga Yugay, oyugay@wiut.uz Subair Ali, sliayakath@wiut.uz

Assessment
40% CW 60% Exam
For CW up to 5 extra marks **can be** assigned in border-line cases (i.e. 29, 39, 49 and etc) **if** there is evidence of participation in-class activities

Tutorial objectives

1. To review lecture
2. To explore collaboration tools
3. To explore Google docs from revision point of view
4. To gain basic understanding of version control
    a. To explore how Google documents related to Git
5. To get introduced to Python

Part A: Lecture review

Activity 1: Systems vs applications programmer

- Refer to the diagram below and distinguish between a systems programmer and an applications programmer.

- What was the rationale behind the development of operating systems?

Activity 2: Match the samples of code

Given samples of code, which of them correspond to machine, assembly, high-level language?

```
class Triangle {
  ...
  float surface()
    return b*h/2;
  }
```

```
0001001001000101
0010010011101100
10101101001...
DIV r1,#2
RET
```

```
LOAD r1,b
LOAD r2,h
MUL r1,r2
DIV r1,#2
RET
```

- Distinguish between machine language and assembly language.
- Distinguish between assembly language and high-level languages.

Part B

Activity 4: My development team

Development process steps are listed below (not in order). Define and tell what happens at each step:

programming **documenting** **designing** **specifying**

conceiving **testing** **bug fixing**

Arrange the steps above in chronological order

Activity 4: My development team

Now with steps more or less clear, what roles are associated with each step?

programming **documenting** **designing** **specifying**

conceiving **testing** **bug fixing**

Activity 4: Focus on collaboration

Now you got the development team

At which step do you think the team members need to collaborate together?

programming **documenting** **designing** **specifying**

conceiving **testing** **bug fixing**

Activity 5: Let's collaborate and get to know each other

Create a google account or change your name to ID in the existing account

Open google drive https://www.google.com/intl/en/drive/

Let's get into groups of 5 people. Each person should get registered on google.

Collaborate within your mini group on a following task:

1. One person in group, makes a folder, named with your IDs and shares with the rest and **wiut.tutor@gmail.com**
2. Name and save a presentation with your IDs
3. Each person should get write a small intro on a selected slide and **share why he or she chose BIS course**

Activity 5: continued

As you work:

1. Try naming significant revisions, experiment with rollback
2. Try leaving comments, and discuss with team members
3. Try chatting while working on presentation
4. Try playing with sharing rights
5. Tag other users to get their attention using @nameoftheuser
6. Explore and try https://sites.google.com/site/scriptsexamples/home/announcements/named-versions-new-version-history-google-docs

Activity 5: Version control

How do you understand term version control?

Have you heard about Git?

Git is a powerful piece of version control software that helps you to keep track of different versions of your code, collaborate on your code with other people, and experiment with new changes to your code

Watch Git Basics: What is version control? https://www.youtube.com/watch?v=OqmSzXDrJBk

So how revisions you made in your Google presentation related to Git?

Read about Git https://git-scm.com/about for upcoming tutorials

Play with python online

https://www.python.org/about/gettingstarted/

https://repl.it/languages/python3

Try simple examples with tutor:

- Print Hello
- Add numbers, add numbers with user input
- Calculate square root

Homework 0: Install git

https://git-scm.com/book/en/v2/Getting-Started-Installing-Git

Homework 1: Install python and PyCharm

Install python 3.5 or later

https://www.python.org/downloads/

Install PyCharm IDE Community edition

https://www.jetbrains.com/pycharm/download/#section=windows

You may also find needed files here:

http://download.wiut.uz/

Homework 2: Generations of hardware

Work in pair and fill out the table below. Name the google spreadsheet tut1_hw3_XXXX where xxxx is your IDs and share with wiut.tutor@gmail.com

	Memory (primary and secondary)	Processing power	Purpose
First generation hardware			
Second generation hardware			
Third generation hardware			

Homework 3: Review the collaboration tools

Explore some examples of collaboration tools (videos) are available on intranet:

- Google docs
- InVision Studio
- Trello

Guess what steps they are for? What other tools you may need in different steps of the development? Btw, your coursework is very much related to this.

Recommended actions

- Intranet: watch videos, e-version of Computer Science Illuminated, Ch 1
- Library: get and read
  a. Dale, Computer Science Illuminated, Ch 1
- Homework on slides
- Read https://www.python.org/about/gettingstarted/

Thank you and good bye!