

## Intro to IT exercises

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# Exercises for Introduction

Bring to class, Jan. 22, the solutions you have done by then

Please post your answers as replies to the “Exercises” message at the Blackboard Discussion Board forum, “Introduction.”

## I. Response to classroom discussion

In sentences, please describe the following, based on the slides or the class discussion about this topic:

- an idea that you haven’t considered in the same way before;
- a concept that is least clear to you.

## II. Reading reflection

What did you notice about your reading? Please give *specifics* and identify your *source*. What was new, or particularly useful to you? Would you suggest changes?

## III. Self introduction

Please post a reply to the message “Self-introduction” at the Discussion Board, topic “Introduction”, giving some information about your interests and your background in computing.

Also, you are invited to express any expectations or questions you have about this course and introduce yourself in other ways: sports, hobbies, work, family. (See questions in the Introduction slide set.)

## IV. Group work and presentation

Among the following questions, consider the *one* that matches your group number:

- What cell-phone apps have you used?
- What do you do on Facebook?
- How do you obtain music, sports, and films?
- Do you take steps to protect your privacy?
- How does IT relate to your major?
- Do you think you get the most out of the applications you use?
- How does IT relate to your career plans?
- Do you use Tumblr, Twitter or YouTube?

Discuss this question in a group. Choose one member of your group to take notes and post them at the Discussion Board (with names of group participants); one to report to the class based on these notes; and one to facilitate the group. Facilitator may wish to report briefly in writing on the group process.

Distribute, among group members, responsibilities for the objectives for your group, as listed below. Each group member will study about three objectives and will prepare to report to the class on solutions to problems that assess them.

Grp	Essential/Priority objectives	Challenge objectives
1	1.1a, 2.2a, 4.2b, 6.3a	1.4a, 3.1, 4.4, 6.4a
2	1.2a, 2.3a, 5.1, 7.1b	1.4b, 3.4a, 5.2b, 6.4b
3	1.3a, 2.3c, 5.2a, 7.2	1.4c, 4.1b, 5.3, 6.4c
4	1.3c, 3.2a, 4.3a, 5.4b	1.1b, 2.1c, 5.4a, 7.1a
5	1.3d, 2.1b, 3.2b, 6.1	2.2b, 4.2a, 6.2c., 7.3
6	2.1a, 3.2b, 3.3, 6.2a, 6.3a	1.3b, 4.3b, 7.4
7	2.1b, 2.3c, 4.1a, 6.2b, 7.1b	1.3e, 2.4, 6.3c, 7.5
8	1.1a, 1.2a, 2.1a, 4.1a, 5.1	1.2b, 2.3b, 4.3c, 6.3b

## Semester project

The project summarizes much of the learning in the course. It is in several parts: a formatted text document and a slide presentation, a spreadsheet, a database table, a web page; and a short research paper.

The project will contain a professional description of a real or envisioned business or other organization; a financial journal and budget; financial charts; a contact database; a simple web page; and a documented research component that is separate from material on the organization or business described in the rest of the project.

### 1. Business or organization description

#### A. Formatted text

Write a description of a real or imaginary business or other organization. Your description is to be in multiple sections with headings and is to contain at least one bulleted list.

#### B. Presentation

Summarize or illustrate your description in a short slide presentation.

For formatting details on both the formatted text and the slide presentation, see Exercises for Topic 1.

#### C. Web page and PDF document

Create a simple *web page* that describes your organization or business. You may use a web-page editor or a text formatter that exports HTML. Include at least one *hyperlink* to an existing site on the web that is relevant in some way to your business or organization.

You may do this exercise by opening the file created for Part A above, and saving it using *Save As* and choosing “Web page” as the file type.

Also export your semester project formatted-text file as PDF.

### 2. Financial component

Create a spreadsheet file for your imaginary business or organization, consisting of a *journal* and a *budget*. Begin by choosing a set of budget categories, for income and expenses. For detailed specifications, see Exercises 2 and Objective 2.3c.

### 3. Database component

Create an Excel file that contains a contact or employee database related to your organization or business. For detailed specifications, see Topic-3 Exercises and objective 3.1.

### 4. Research component

Choose the topic or subtopic of this course that interests you most. Write a proposal, consisting of the *title and abstract* of a research paper on this topic, accompanied by at least two *academic references* (author, title, publication information) from a textbook, an edited work, or a peer-reviewed publication such as a conference or journal paper (see Google Scholar). Use a standard bibliographic style.

*Title* should give a clear idea what the research is about. An *abstract* is a paragraph or so of description of a research project. It briefly *defines a topic* with some factual information and *states a problem* to be investigated or a *question* to be answered.

After receiving approval of your topic and feedback on it, write a short paper of at least 300 words. If you turn in this paper on time, I’ll comment in time for you to improve the paper for the final submission. Please use *Track Changes* to show your final edits.

Criteria for evaluation: abstract; defining terms; technical aspect; writing and organization; revision.

### Submission

Submit the project in preliminary and final forms. I’ll grade and comment the preliminary version for you to correct in the final one. The final version is to be submitted April 21, the first day of the review stage of the course.

- *Preliminary versions* of parts 1-3 are part of Exercises 1-3
- *Research component*: proposal during first third of course; preliminary research draft during second third of course.
- *Final electronic version*, in .zip file that contains .doc, .ppt, .xls, .pdf, and .html files
- *Final hardcopy version*, bound in professional style in a *thin* (softcover) binder or folder, with a table of contents, labeled tabs, and a cover page.

# Exercises for topic 1 (Text formatting)

Bring to class, Feb. 3, the solutions you have done by then.

## I. Response to classroom discussion

In sentences, please describe the following, based on the slides or the class discussion about this topic:

- a. an idea that you haven't considered in the same way before;
- b. a concept that is least clear to you.

## II. Reflection on reading

What did you notice about your reading?  
What was new, or particularly useful to you?  
Would you suggest changes? Please give *specifics* and identify your *source*.

## III. Problems on subtopic objectives

From the headings under "Problems to assess topic 1 objectives," solve the problem whose number corresponds to your student classroom ID. Give that number, and restate problems as the first step of solving them.

Please prioritize the problems that assess the essential and priority objectives. If you are able to solve those, consider also solving problems for challenge objectives. Many of these are not difficult. If you don't have time to solve all problems, turn in, on time, as many as you are able to solve. Consider rating your confidence in your solutions.

The following objectives for this topic are assessed by exercise only; I will score the solutions that you turn in.

- 1.2b Import and export data†
- 1.3c Use named styles\*†
- 1.3d Format text with several attributes\*†
- 1.3e Use slide-presentation graphics software†
- 1.4a Use a hyperlink in your project
- 1.4c Use HTML formatting†

## IV. Group work and presentation

Each student please prepare to present solutions for topic-1 problems assigned to you by your group. Consider sharing your solutions with other group members, helping each other see how you solved your problems.

*For each group member to do:* Describe the group process briefly.

## V. Starting the semester project

See the tasks for the six objectives listed at the end of III above.

## VI. Glossary (optional, extra credit)

See heading, "Terminology," above the Topic 1 problems. Review the terms numbered with the same last digit as your classroom number. See wiki, "Glossary," at Blackboard, *Course Tools / Wikis*. Define any undefined term you find or review the definition of a term that corresponds to your classroom number and correct or improve the definition if appropriate. Put your name after the definition, and any sources you used.

# Exercises for topic 2 (Spreadsheets)

Bring to class Feb. 12 the solutions you have done by then.

## I. Response to classroom discussion

In sentences, please describe the following, based on the slides or the class discussion about this topic:

- a. an idea that you haven't considered in the same way before;
- b. a concept that is least clear to you.

## II. Reflection on reading

What did you notice about your reading? What was new, or particularly useful to you? Would you suggest changes? Please give *specifics* and identify your *source*.

## III. Problems on subtopic objectives

From the headings under "Problems to assess topic 2 objectives," solve the problem whose number corresponds to your student classroom ID. Give that number, and restate problems as the first step of solving them. Prioritize the problems that assess the essential and priority objectives.

The following objective for this topic is assessed by exercise only; I will score the solutions that you turn in. It's also part of the semester project.

- 2.3c Create a spreadsheet from a description of its contents\*†

## IV. Group work and presentation

Each student please prepare to present solutions for topic-2 problems assigned to you by your group. Consider sharing your solutions with other group members, helping each other see how you solved your problems.

*For each group member to do:* Describe the group process briefly.

## V. Progress on semester project

Please see semester project description and turn in the Financial component. (This fulfills core objective 2.3c.)

## VI. Glossary (optional, extra credit)

See heading, "Terminology," above the Topic 2 problems. Review the terms numbered with the same last digit as your classroom number. See wiki, "Glossary," at Blackboard, *Course Tools / Wikis*. Define any undefined term you find or review the definition of a term that corresponds to your classroom number and correct or improve the definition if appropriate. Put your name after the definition, and any sources you used.

# Exercises for topic 3 (Databases)

Bring to class Feb. 24 the solutions you have done by then.

## I. Response to classroom discussion

In sentences, please describe the following, based on the slides or the class discussion about this topic:

- a. an idea that you haven't considered in the same way before;
- b. a concept that is least clear to you.

## II. Reflection on reading

What did you notice about your reading? What was new, or particularly useful to you? Would you suggest changes? Please give *specifics* and identify your *source*.

## III. Problems on subtopic objectives

From the headings under "Problems to assess topic 3 objectives," solve the problem whose number corresponds to your student classroom ID. Give that number, and restate problems as the first step of solving them. Prioritize the problems that assess the essential and priority objectives.

The following objective for this topic is assessed by exercise only; I will score the solutions that you turn in. It's also part of the semester project.

- 3.1 Create a database table\*†
- 3.4a Group and summarize data to show patterns†

## IV. Group work and presentation

Each student please prepare to present solutions for topic-3 problems assigned to you by your group. Consider sharing your solutions with other group members, helping each other see how you solved your problems.

*For each group member to do:* Describe the group process briefly.

## V. Progress on semester project

- a. See semester project description and turn in the *Database component* (Study questions, objective 3.1, *Create a database table*).
- b. Also provide the *Proposal* part of the research paper. This includes a title, abstract with facts and research questions, and at least two academic sources.

## VI. Glossary (optional, extra credit)

See heading, "Terminology," above the Topic 3 problems. Review the terms numbered with the same last digit as your classroom number. See the wiki, "Glossary," at Blackboard, *Course Tools / Wikis*. Define an undefined term you find, or review the definition of a term that corresponds to your classroom number and correct or improve the definition if appropriate. Put your name after the definition, and any sources you used.

# Exercises for topic 4 (Hardware)

Bring to class March 3 the solutions you have done by then.

## I. Response to classroom discussion

In sentences, please describe the following, based on the slides or class discussion about this topic:

- a. an idea that you haven't considered in the same way before;
- b. a concept that is least clear to you.

## II. Reflection on reading

What did you notice about your reading? What was new, or particularly useful to you? Would you suggest changes? Please give *specifics* and identify your *source*.

## III. Problems on subtopic objectives

From the headings under "Problems to assess topic 4 objectives," solve the problem whose number corresponds to your student classroom ID. Give that number, and restate problems as the first step of solving them. Prioritize the problems that assess the essential and priority objectives.

The following challenge objectives for this topic are assessed by exercise only. They depend on use of the P10 processor simulator.

- 4.3b Test an assembler-language program and describe its results†
- 4.3c Write and test an assembler program†

## IV. Group work and presentation

Each student please prepare to present solutions for topic-4 problems assigned to you by your group. Consider sharing your solutions with other group members, helping each other see how you solved your problems.

*For each group member to do:* Describe the group process briefly.

## IV. Group work and presentation

Divide the *non-core* subtopic objective problems among group members, so that for each subtopic objective, at least one group member solves a problem.

Share solutions to problems with other group members, helping each other see how you solved your problems.

Also, support a group member to prepare a *presentation* of at least one problem solution. If your group cannot solve a certain problem, describe an *effort* to solve the problem and request help in this effort. Choose one member of your group to present the solution in class. Rotate in this role from topic to topic.

*For each group member to do:* Describe the group process briefly.

## V. Progress on semester project

Catch up if necessary on parts of the semester project related to topics 1-3, and on the Proposal part of the research paper.

## VI. Glossary (optional, extra credit)

See heading, "Terminology," above the Topic 4 problems. Review the terms numbered with the same last digit as your classroom number. See the wiki, "Glossary," at Blackboard, *Course Tools / Wikis*. Define an undefined term you find, or review the definition of a term that corresponds to your classroom number and correct or improve the definition if appropriate. Put your name after the definition, and any sources you used.

# Exercises for topic 5 (Networks and Internet)

Bring to class March 24 the solutions you have done by then.

## I. Response to classroom discussion

In sentences, please describe the following, based on the slides or the class discussion about this topic:

- a. an idea that you haven't considered in the same way before;
- b. a concept that is least clear to you.

## II. Reflection on reading

What did you notice about your reading? What was new, or particularly useful to you? Would you suggest changes? Please give *specifics* and identify your *source*.

## III. Problems on subtopic objectives

From the headings under "Problems to assess topic 5 objectives," solve the problem whose number corresponds to your student classroom ID. Give that number, and restate problems as the first step of solving them. Prioritize the problems that assess the essential and priority objectives.

The following objective for this topic is assessed by exercise only; I will score the solutions that you turn in.

- 5.2b Use technology that supports collaboration†
- 5.4b Evaluate online information\*†

## IV. Group work and presentation

Each student please prepare to present solutions for topic-5 problems assigned to you by your group. Consider sharing your solutions with other group members, helping each other see how you solved your problems.

*For each group member to do:* Describe the group process briefly.

## V. Progress on semester project

Please turn in the *Preliminary draft* of the research paper.

Check to see that all elements of components 1 to 3 of the semester project are complete. If so, new submission is optional for now; otherwise, please complete the work and turn it in, bound in a thin binder or folder.

## VI. Glossary (optional, extra credit)

See heading, "Terminology," above the Topic 5 problems. Review the terms numbered with the same last digit as your classroom number. See the wiki, "Glossary," at Blackboard, *Course Tools / Wikis*. Define an undefined term you find, or review the definition of a term that corresponds to your classroom number and correct or improve the definition if appropriate. Put your name after the definition, and any sources you used.



# Exercises for topic 6 (Problem solving and programming)

Bring to class April 7 the solutions you have done by then.

## I. Response to classroom discussion

In sentences, please describe the following, based on the slides or the class discussion about this topic:

- a. an idea that you haven't considered in the same way before;
- b. a concept that is least clear to you.

## II. Reflection on reading

What did you notice about your reading? What was new, or particularly useful to you? Would you suggest changes? Please give *specifics* and identify your *source*.

## III. Problems on subtopic objectives

From the headings under "Problems to assess topic 6 objectives," solve the problem whose number corresponds to your student classroom ID. Give that number, and restate problems as the first step of solving them. Prioritize the problems that assess the essential and priority objectives.

The following objective for this topic is assessed by exercise only; I will score the solutions that you turn in. It's also part of the semester project.

- 6.4b Write and test JavaScript code†
- 6.4c Create an event-driven web page†

## IV. Group work and presentation

Each student please prepare to present solutions for topic-6 problems assigned to you by your group. Consider sharing your solutions with other group members, helping each other see how you solved your problems.

*For each group member to do:* Describe the group process briefly.

## V. Progress on semester project

Please turn in the *Preliminary draft* of the research paper if you did not do so earlier.

## VI. Glossary (optional, extra credit)

See heading, "Terminology," above the Topic 6 problems. Review the terms numbered with the same last digit as your classroom number. See the wiki, "Glossary," at Blackboard, *Course Tools / Wikis*. Define an undefined term you find, or review the definition of a term that corresponds to your classroom number and correct or improve the definition if appropriate. Put your name after the definition, and any sources you used.

# Exercises for topic 7 (IT and society)

Bring to class April 16 the solutions you have done by then.

## I. Response to classroom discussion

In sentences, please describe the following, based on the slides or the class discussion about this topic:

- a. an idea that you haven't considered in the same way before;
- b. a concept that is least clear to you.

## II. Reflection on reading

What did you notice about your reading?  
What was new, or particularly useful to you?  
Would you suggest changes? Please give *specifics* and identify your *source*.

## III. Problems on subtopic objectives

From the headings under "Problems to assess topic 7 objectives," solve the problem whose number corresponds to your student classroom ID. Give that number, and restate problems as the first step of solving them. Prioritize the problems that assess the essential and priority objectives.

## IV. Group work and presentation

Each student please prepare to present solutions for topic-7 problems assigned to you by your group. Consider sharing your solutions with other group members, helping each other see how you solved your problems.

*For each group member to do:* Describe the group process briefly.

## V. Progress on semester project

Please turn in the *Final draft* of the research paper.

## VI. Glossary (optional, extra credit)

See heading, "Terminology," above the Topic 7 problems. Review the terms numbered with the same last digit as your classroom number. See the wiki, "Glossary," at Blackboard, *Course Tools / Wikis*. Define an undefined term you find, or review the definition of a term that corresponds to your classroom number and correct or improve the definition if appropriate. Put your name after the definition, and any sources you used.