



Cambridge Assessment
International Education

Institute of Dynamic Learning

COMPUTER SCIENCE

Winter Homework

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INSTITUTE OF DYNAMIC LEARNING

Topics Covered in Computer Science (Python)

In this term, we have covered the following Python topics in Computer Science:

- 1. Python Introduction**
- 2. Python Comments**
- 3. Print in Python (Basic Input/Output)**
- 4. Python Variables**
- 5. Casting in Python (Type Conversion)**
- 6. Numeric Datatypes**
 - int (Integer Numbers)
 - float (Decimal Numbers)
- 7. String Datatype**
 - Slicing strings
 - Modify strings
 - Concatenate strings
 - Format strings
- 8. Boolean Datatype (True/False)**
- 9. Operators**
 - Arithmetic Operators
 - Assignment Operators
 - Comparison Operators
 - Logical Operators
- 10. List / Array Datatype**
 - Access or print list items
 - Change list items
 - Add list items
 - Remove list items

Winter Homework Instructions

1. General Requirements

- Complete this homework on a separate Word document titled: "Python Winter Homework – [Your Name] [Class]".
- Use clear headings, subheadings, bullets, and proper spacing so the work looks neat and professional.
- Use a readable font (for example Calibri or Arial), font size 11 or 12 for normal text, and larger/bold for headings.

2. Structure for Each Topic

For EACH topic in the list above, follow this exact structure:

a) Heading for the topic

Write the topic name as a main heading, for example:

- "Python Introduction"
- "Python Variables", "Boolean Datatype", "Lists in Python", etc.

b) Explanation / Description

In your own words, write a clear explanation of the topic.

Explain what it is, why it is used, and where it is used in Python programming.

Write at least one well-formed paragraph for each topic.

c) Code Example

Write at least one Python code example that shows how this topic works.

The code should be simple, correct, and directly related to that topic only.

d) Run the Code and Take Screenshot

Open your [Python environment](#) (Click on python environment)

Type the example code for that topic and run it.

Take a clear screenshot that shows:

- The code, and
- The output/result window.

e) Insert Screenshot in Word

In your Word document, insert the screenshot directly under the code example for that topic. Make sure the screenshot is large enough to read clearly and is properly aligned.

3. Specific Expectations

- Python Introduction: Describe what Python is and why it is used in real life. Give a very simple "Hello, World" example and its output.
- Comments, Print, Variables, Casting, Datatypes, Operators, Lists: For each of these, follow the same structure: explanation → code example → output screenshot.
- When a topic has sub-topics (like string operations or list operations), show at least one example for each sub-topic.

4. Design and Presentation

- Use consistent styles for all headings and subheadings (for example:
 - Heading 1 for main title,
 - Heading 2 for each topic,
 - Heading 3 for sub-topics like "Slicing Strings", "Add List Items", etc.).
- Add page numbers to the footer of the document.
- You have to add a simple cover page with:
 - School logo,
 - Subject: Computer Science,
 - Topic: Python Winter Homework,
 - Your name, class, section, and date.
- You have to add a Table of contents after the cover page

5. Submission Guidelines

- Review your document to check spelling, grammar, and formatting before submission.
- Ensure that every topic from the list is included with description, code example, and screenshot of the output.
- Submit the Print of your Word file

IMPORTANT REMINDERS:

- ✓ Complete ALL topics - no topic should be skipped
- ✓ Each topic must have: Description + Code Example + Output Screenshot
- ✓ Make your document look professional and well-organized
- ✓ Test all your code examples before taking screenshots
- ✓ Make sure screenshots are clear and readable

Good luck with your winter homework!