



Daffodil International University

Department of Business Administration

Faculty of Business & Entrepreneurship

Mid Examination, Spring-2026

Course Code: 0613-114, Course Title: Programming for Business Analytics

Batch: 65

Teacher: TUR/TUR/Sadman/Sadman/Sadman

Time: 1.5 Hours

Marks: 25

Answer All Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

<p>1. You are developing a Python program for a school system where students can input their <u>name</u>, <u>age</u>, and <u>GPA</u>. The program should store this data and display it back to the user. Additionally, you need to follow the rules for variable declaration and input handling in Python.</p>	
<p>a) Show the rules for declaring variables in Python. What are the restrictions on variable names in Python? List at least three important rules for naming variables.</p> <p>b) Define a Python program by writing that:</p> <ol style="list-style-type: none">1. Takes the student's name as input (string).2. Takes the student's age as input (integer).3. Takes the student's GPA as input (float).4. Prints the student's information in a readable format.	<p>10 CLO1</p>
<p>2 You are building a Python program for a ticket booking system for a theme park. The system needs to determine the ticket price based on the <u>user's age</u> and whether they are a member of the park's loyalty program. The rules are as follows:</p> <ol style="list-style-type: none">1. If the user is under <u>18 years old</u>, the ticket price is <u>\$10</u>, regardless of membership status.2. If the user is <u>18 years or older but under 60 years</u>:<ul style="list-style-type: none">o If they are a <u>member of the loyalty program</u>, the ticket price is <u>\$30</u>.o If they are <u>not a member</u>, the ticket price is <u>\$50</u>.3. If the user is <u>60 years or older</u>:<ul style="list-style-type: none">o If they are a <u>member of the loyalty program</u>, the ticket price is <u>\$15</u>.o If they are <u>not a member</u>, the ticket price is <u>\$25</u>.	
<p>Contrast a Python program that:</p> <ol style="list-style-type: none">1. Asks for the user's age and Asks whether the user is a member of the loyalty program (Yes or No).2. Determines and displays the ticket price based on the above rules.	<p>10 CLO2</p>

3. You are developing a Python program that needs to print out the first n numbers in the Fibonacci sequence. The Fibonacci sequence starts with 0 and 1, and each subsequent number is the sum of the two preceding ones. For example:
0, 1, 1, 2, 3, 5, 8, 13, 21,...

To achieve this, you have two options: using a `for` loop or a `while` loop. Each of these loops has its own characteristics and use cases.

Identify the purpose of loops in Python? Explain the differences between a `for` loop and a `while` loop.

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