



**Daffodil International University**  
**Department of Software Engineering**  
**Faculty of Science & Information Technology**  
**Lab Final Examination, Fall 2024**

**Course Code: SE215 Course Title: Algorithm Analysis and Design Lab**  
**Sections & Teachers: FE**

**Time: 1:15 Hr**

**Set: A**

**Answer ALL Questions**

**1.** Write a program in your preferred programming language to implement the bubble Sort algorithm.

**Submission Instructions:**

- a) Create a file and name it with your student ID (for example : 201-35-110.C).
- b) Implement the algorithm in your preferred language.
- c) Provide your name as comments in the code. (for example: //Imtiaz haque)
- d) Print your ID and name in the output window (for example: printf("ID=201-35-110 and name= Imtiaz haque" );)
- e) Copy the code and paste it in the "Lab Final answer script". Moreover, take screenshots of every step after running the code and make a document "Lab Final answer script".

**2.** Given a list of coin denominations and a target amount, determine the minimum number of coins required to make up that amount.

**Submission Instructions:**

- a) Create a file and name it with your student ID (for example : 201-35-110.C).
- b) Implement the algorithm in your preferred language.
- c) Provide your name as comments in the code. (for example: //Imtiaz haque)
- d) Print your ID and name in the output window (for example: printf("ID=201-35-110 and name= Imtiaz haque" );)
- e) Copy the code and paste it in the "Lab Final answer script". Moreover, take screenshots of every step after running the code and make a document "Lab Final answer script".

**Finally Submit "Lab Final answer script" on BLC.**



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**Set: B**

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**Answer ALL Questions**

**1.** Write a program in your preferred programming language to implement the selection Sort algorithm.

**Submission Instructions:**

- f) Create a file and name it with your student ID (for example : 201-35-110.C).
- g) Implement the algorithm in your preferred language.
- h) Provide your name as comments in the code. (for example: //Imtiaz haque)
- i) Print your ID and name in the output window (for example: printf("ID=201-35-110 and name= Imtiaz haque" );)
- j) Copy the code and paste it in the "Lab Final answer script". Moreover, take screenshots of every step after running the code and make a document "Lab Final answer script".

**2.** Given a set of items, each with a weight and a value, determine the maximum value that can be obtained by selecting a subset of the items that fit into a knapsack of limited capacity. Note that a fraction of the items can be considered.

**Submission Instructions:**

- f) Create a file and name it with your student ID (for example : 201-35-110.C).
- g) Implement the algorithm in your preferred language.
- h) Provide your name as comments in the code. (for example: //Imtiaz haque)
- i) Print your ID and name in the output window (for example: printf("ID=201-35-110 and name= Imtiaz haque" );)
- j) Copy the code and paste it in the "Lab Final answer script". Moreover, take screenshots of every step after running the code and make a document "Lab Final answer script".

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**Set: C**

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**Answer ALL Questions**

**1.** Write a program in your preferred programming language to implement the insertion Sort algorithm.

**Submission Instructions:**

- k) Create a file and name it with your student ID (for example : 201-35-110.C).
- l) Implement the algorithm in your preferred language.
- m) Provide your name as comments in the code. (for example: //Imtiaz haque)
- n) Print your ID and name in the output window (for example: printf("ID=201-35-110 and name= Imtiaz haque" );)
- o) Copy the code and paste it in the "Lab Final answer script". Moreover, take screenshots of every step after running the code and make a document "Lab Final answer script".

**2.** Given a list of coin denominations and a target amount, determine the number of ways to make up that amount.

**Submission Instructions:**

- k) Create a file and name it with your student ID (for example : 201-35-110.C).
- l) Implement the algorithm in your preferred language.
- m) Provide your name as comments in the code. (for example: //Imtiaz haque)
- n) Print your ID and name in the output window (for example: printf("ID=201-35-110 and name= Imtiaz haque" );)
- o) Copy the code and paste it in the "Lab Final answer script". Moreover, take screenshots of every step after running the code and make a document "Lab Final answer script".

**Finally Submit "Lab Final answer script" on BLC.**