

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 233 & Operating System**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

Give the concept of Process control block and Process state. Describe different CPU scheduling criteria. 'Resource allocation graph is used to represent deadlock in operating system'- Explain the statement.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSIT 331 & Advance Computer Network**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

Classify different methods of configuration management function in network management system. 'Secret key, public key and private key are used in any cryptographic system'- Explain the statement. Give the concept of Simple network management protocol.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSIT 225 & Data Communication**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

Classify different types of methods in digital to digital conversion system. 'Sampling, quantizing and encoding are the three processes involved in PCM encoder'- Explain the statement. Consider the following digital data and convert this data into digital signal using NRZ-L, NRZ-I, Manchester and Differential Manchester methods:

1010111

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 131 & Digital Electronics**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

Construct a 3 to 8 decoder and Explain its features. Explain the concept of Multiplexer. How can you design a 32:1 multiplexer using 2:1 multiplexer?

ROYAL UNIVERSITY OF DHAKA  
Program: MSCSE  
**Course Code & Title: MS 641 & Software Engineering and Project Management**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

'User requirement and system requirement are the types of requirement engineering'-Explain the statement. Give the concept of different issues in software project management. What are the different levels of software testing and their goals?

ROYAL UNIVERSITY OF DHAKA  
Program: MSCSE  
**Course Code & Title: MS 513 & Computer Organization and Assembly Programming**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

Give the concepts of instruction, instruction set and instruction format. 'Three, two, one and zero address instructions are the types of instruction'-Explain the statement. What are the methods to improve the performance of a memory system?

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: EEE 106-Telecommunication**  
**Course Teacher: Ahmed Abdullah (01680076500, ahmed.abdullah@royal.edu.bd)**

### Assignment

Assignment Topic:

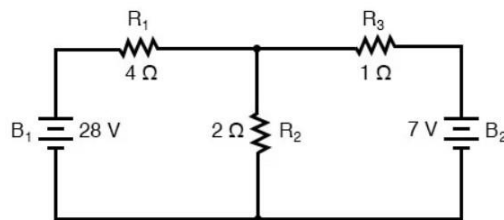
Write down the differences between switched and broadcast. Draw flow diagram of data transmitted along the dedicated path. How to design a packet switching server in a call center? Explain.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: EEE 101 & Electrical Engineering**  
**Course Teacher: Ahmed Abdullah 01680076500, ahmed.abdullah@royal.edu.bd**

### Assignment

Assignment Topic:

Write down steps of Milliman theorem. Draw Thevenin, Norton & Maximum Power Transfer for the following circuit.



ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: EEE 103: Electronics Engineering (Bhairab)**  
**Course Teacher: Ahmed Abdullah 01680076500, ahmed.abdullah@royal.edu.bd**

### Assignment

Assignment Topic:

How to calculate leakage current in a Zener diode? Describe with mathematical expression. Why we use diode in UPS? Explain.

ROYAL UNIVERSITY OF DHAKA  
Program: MSCSE  
**Course Code & Title: MS 691: Data Mining & Warehousing**  
Course Teacher: Rowjatul Zannat Eshita  
(Contact No: 01675742407, Mail: rowjatul.eshita@royal.edu.bd)

### Assignment

Assignment Topic:

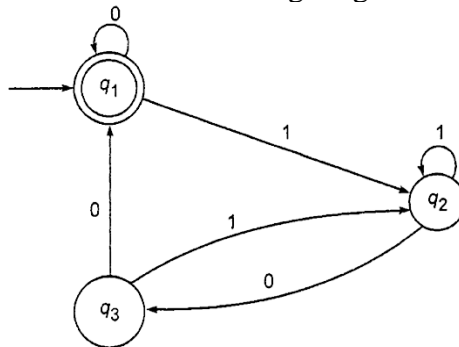
What is data discretization? How many types of cluster analysis of Data? Describe the concept of data hierarchy generation. Why we need to classify data for mining?

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 223: Theory of Computing (Evening)**  
Course Teacher: Rowjatul Zannat Eshita  
(Contact No: 01675742407, Mail: rowjatul.eshita@royal.edu.bd)

### Assignment

Assignment Topic:

Consider the following grammar-  $S \rightarrow bB \mid aA$ ,  $A \rightarrow b \mid bS \mid aAA$ ,  $B \rightarrow a \mid aS \mid bBB$ .  
For the string “**bbaababa**”, prove that it is an ambiguous grammar. Convert the following Regular Expressions into their equivalent DFAs:  $c^*a(d+bc^*a)^*$ ,  $b^*(aa^*(bb^*+\epsilon)+\epsilon)$ ,  $(ab + b(a+bb))^*$ ,  $aa^* + ba^*$ ,  $(a+b)(a+b)(a+b)^*$ . Using Arden's Theorem construct a regular expression corresponding to the automata for the figure given below:



ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: EEE 109: Microcontroller (Day & Evening)**  
Course Teacher: Rowjatul Zannat Eshita  
(Contact No: 01675742407, Mail: rowjatul.eshita@royal.edu.bd)

### Assignment

Assignment Topic:

What is Arduino? Why do we use Arduino? Describe different parts of a DC motor. Discuss about different LED configurations of SSD with proper example. Write down different properties of an operational amplifiers.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSIT 325: Management Information System (Day)**  
Course Teacher: Rowjatul Zannat Eshita  
(Contact No: 01675742407, Mail: rowjatul.eshita@royal.edu.bd)

### Assignment

Assignment Topic:

Who are entrepreneurs? Distinguish between Successful and Unsuccessful Entrepreneurs. Describe different market phases. How Internet is creating a global marketplace? What roles and tasks does the MIS department perform? How do you control a major development project? Why is control so important?

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: MS 671 - Object Oriented Programming**  
**Course Teacher: Mosharrof Hussain Masud (01904335169), (mh.masud@royal.edu.bd)**  
Assignment

Assignment Topic:

Write a complete Program or Class (executable) for the following Object Oriented Concepts: Class, Object, Inheritance, Polymorphism, Encapsulation and Constructor.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 329 - Compiler Design (Day)**  
**Course Teacher: Mosharrof Hussain Masud (01904335169), (mh.masud@royal.edu.bd)**  
Assignment

Assignment Topic:

Discuss the concept of Ambiguity. How an ambiguity can be eliminated in compiler design. Derive a string with 2 ones and 4 zeros "110000" on CFG both in algebraic and graphical methods.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 329 - Compiler Design (Evening)**  
**Course Teacher: Mosharrof Hussain Masud (01904335169), (mh.masud@royal.edu.bd)**  
Assignment

Assignment Topic:

Discuss LL and LR parsing in details. Derive the concept of Context Free Grammar (CFG). Derive a string with "aabbbbaa" on CFG both in algebraic and graphical methods that starts and ends with same symbols.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 329 - CSE 339 - Simulation & Modelling**  
**Course Teacher: Mosharrof Hussain Masud (01904335169), (mh.masud@royal.edu.bd)**

### Assignment

Assignment Topic:

Discuss the steps of the simulation and modeling with the details of flow chart, algorithm and detailed result analysis.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSIT 333: Computer Graphics (Eve)**  
**Course Teacher: Mosharrof Hussain Masud (01904335169), (mh.masud@royal.edu.bd)**

### Assignment

Assignment Topic:

Define the visualization of computer graphics with its goals. Discuss the procedures with a mathematical model how a machine visualize the data like human brain.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSIT 331: Advance Computer Network (Day)**  
**Course Teacher: Md. Nur-E-Arefin (01675025549, nur.arefin@royal.edu.bd)**

Assignment

**Instruction: Assignment must be done by hand writing.**

**Assignment Topic:**

- a) What is OSI model? Describe the physical layer of OSI model.
- b) Discuss about application layer protocols.
- c) What is Encryption? How encryption protects?
- d) Write short notes TCP and UDP.
- e) Discuss briefly about IPV6.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 231 & Computer Algorithm**  
**Course Teacher: Md. Nur-E-Arefin (01675025549, nur.arefin@royal.edu.bd)**

Assignment

**Instruction: Assignment can be done by hand writing or computer compose.**

**Assignment Topic:**

- a) Sort the step by step array using bubble sort.

2	13	9	8	18	50
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- b) Sort the array step by step using selection sort.

12	16	13	8	5	9
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- c) Sort the array using insertion sort. (show step by step)

2	4	13	6
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- d) With the help of counting sort, sort the following array:

5	6	2	4	3	1	8
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- e) Sort the following array by merge sort:

32	85	24	45	48	50	28	15
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ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 335: Multimedia System Design**  
**Course Teacher: Md. Nur-E-Arefin (01675025549, nur.arefin@royal.edu.bd)**

Assignment

**Instruction: Assignment must be done by hand writing.**

**Assignment Topic:**

- a) Describe multimedia communication network and data communication model.
- b) Narrate shortly about RTF, pixel bit depth, resolution and audio sampling process.
- c) Demonstrate about media types and classification.
- d) Write down about communication of information and model of communication.
- e) Write short notes on color, graphics, audio, digital image and video.



ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT / BBA / B.A. (HON'S) in English, HMT  
**Course Code & Title: CSE 109: Computer Application / CSE 111: Computer  
Fundamentals**  
**Course Teacher: Shormee Saha (01817561452, shormee.saha@royal.edu.bd)**

Assignment

**Assignment Topic:**

Establish and explain the relationships between software and hardware. List out the hardwares required to build computer networks with their features and workings.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 213: Object Oriented Programming (EVE)**  
**Course Teacher: Shormee Saha (01817561452, shormee.saha@royal.edu.bd)**

Assignment

**Assignment Topic:**

Explain diamond problem in Java. Explain possible solutions to diamond problem with proper code example.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 316: Artificial Intelligence (Eve)**  
**Course Teacher: Shormee Saha (01817561452, shormee.saha@royal.edu.bd)**

Assignment

**Assignment Topic:**

Describe the architecture, algorithm and development phases of fuzzy logic with a proper example.