Course Code: CIS 221
Course Title: Object oriented programming language
Time 30 mint Mark 15
Q3

1. Explain the difference between checked and unchecked exceptions in Java. Provide an example of each type.[Mark 3]
2. Describe the purpose of a try...catch...finally block in Java exception handling. When would you use a finally block?[Mark 4]
3. Explain the steps involved in establishing a database connection and retrieving data using JDBC in Java...
   a. Load the JDBC Driver. [Mark 2]
   b. Establish a Connection. [Mark 2]
   c. Create a Statement Object: [Mark 1]
   d. Execute the SQL Query. [Mark 2]
   e. Close the Connection [Mark 1]

The following passage describes what is recorded when a patient is admitted to hospital for medical care.

A community doctor refers the patient to the hospital. The hospital checks the patient's name, address, date of birth, and patient number in its patient file. Each hospital admission is known as an admission episode; it begins with a reason for admission and a planned admission date being recorded when a community doctor refers the patient. The patient is sent an admission card and this card is copied to the community doctor. Each admission episode ends when the patient is discharged; the reason for discharge and the discharge date are recorded on the admission episode file. The community doctor is sent discharge notes prepared by the hospital doctor. The patient receives discharge advice. A hospital doctor supervise each admission episode and a hospital doctor supervises many admission episodes. The hospital doctor reports any treatment that is to be undertaken by the patient and this is recorded for the episode.

When the hospital doctor makes a diagnosis, the description of the diagnosis and the diagnosis code is written on the patient file with the date; over time a patient can have may diagnoses recorded. Each admission episode entails the possibility of treatment for the diagnosis. The treatment can be composed of surgery, medication, or both. For surgery the date of the surgical operation, the surgery code, and a description is recorded. For medication the following are recorded: drug name and its code, the dose, start date, frequency and notes.

An admission episode is created when a community doctor refers the patient; this called a planned admission. If the community doctor reports that the patient's circumstances have changed(eg the patient recovers) then the admission can be cancelled and this becomes a cancelled admission; the cancellation date and reason are recorded. Upon reading the patient details, the hospital doctor offers a planned admission date to the patient. If is advised of the delay as s the community doctor; the length of delay is recorded. A delayed admission can be cancelled. When a patient enters hospital the admission is regarded as being activated and the admission date recorded. If no diagnosis is made or if the diagnosis is not treatable then the patient is discharged from hospital; the admission episode is completed and called a discharged admission. If the patient has treatable diagnoses then the admission is regarded as treatable and the admission episode is marked accordingly. While different treatments are carried out the admission continues to be called treatable. When the treatment cycle is completed the patient is discharged; the discharge date and reason for discharge are written on the episode. The discharge is the final state of admission episode.

There are two types of doctor involved in the care of a patient. Both types of doctor have a doctor number, a medical qualification, and a name the hospital doctor supervises each admission episode and is responsible for discharging the patient. For the hospital doctor we record the ward /clinic and the specialty the doctor is responsible for .The community doctor refers the patient in the first place for the community doctor we record the practice address, postcode, telephone number, and fax number. A hospital doctor can never be can community doctor aw well

1. Write All oop feature and explain from scenario .7
2. Define relationship i oop? Give example fo given story. 8

Dependency
Association
Generalization
Rela izati

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Department of Computing and Information System
Final Examination: Spring Semester-2024
Program: B.Sc. in CIS
Course Code: CIS 216
Course Title: OBJECT ORIENTED PROGRAMMING

Time: 2 Hours   **Total Marks: 40**

(Answer all the followings questions)

Scenario

Sunny Holidays is a holiday company based in Dhaka, Bangladesh. They manage a number of holiday camps across Bangladesh.

A camp will be based at a particular resort. A resort might have one or more camps. Camps have different facilities, for example a camp might have a swimming pool, a restaurant and a games room.

Customers of Sunny Holidays are known as guests. A guest will stay in accommodation defined as a unit. A unit will be of a particular type such as a standard caravan, deluxe caravan, small fixed tent or large fixed tent.

Guests make bookings to stay in a particular unit on a camp. A booking can be for one or more guests. Some guests stay at more than one camp at different periods of time.

Each unit is supplied with a number of inventory items (e.g. a set of bed sheets, a coffee maker). Inventory items are classified by type (e.g. bedding, kitchen equipment, outdoor equipment).

The system should be capable of storing all the information needed for Sunny Holidays to carry out their business. A number of additional requirements are outlined below, including data entry and queries.

1.	**Use case**	[Marks-5]	CLO-1 Level-3
A	Define use cases and Explain with example		
B	What is an actor? Give an example.		
C	Draw a use case diagram.		
2.	**Class diagram**	[Marks-5]	
A	Define a class with example.		CLO-2 Level—5,1
B	Identify attribute and method for Customer class.		
C	Draw a class diagram from Sunny Holidays.		
3.	**Java class**	[Marks-10]	CLO-3 Level-5
A	Define a class from Sunny Holidays		
B	Write a java class with two constructors.		
C	Create object with default value also with specified value.		

4.		Abstraction	[Marks-5]	
		Explain term Abstraction in oop. give an example. Analyze 0-100% abstraction and 100% abstraction.		CLO-3 Level-6
5.		Exception	[Marks-5]	CLO-3
	A	Explain the difference between checked and unchecked exceptions in Java. Provide an example of each type.		Level-3
	B	Describe the purpose of a try...catch...finally block in Java exception handling. When would you use a finally block?		
6.		Database connectivity Explain the steps involved in establishing a database connection and retrieving data using JDBC in Java… a. Load the JDBC Driver. b. Establish a Connection. c. Create a Statement Object: d. Execute the SQL Query. e. Close the Connection	[Marks-10]	Clo-3 Lavel-5