

BSc (Hons) in Information Technology Year 2

Tutorial Week 4

IT2030 – Object Oriented Programming

Semester 1, 2020

Exercise 1

```
interface IDisplay {
    void print(); // Print in one line
    void printDetails(); // Print in multiple Lines
}
interface IInput {
    void input();
}
```

- a) Implement a class called Book with properties bookID, title, publisher which uses the interfaces IDisplay and IInput
- b) Implement a class called Student with properties studentID, and name which uses the interfaces IDisplay and IInput
- c) Create objects of the Book and Student in the main method.
- d) Create a variable of the IDisplay and IInput interfaces and call the printDetails () and input () methods respectively of Book and Student objects.

Exercise 2

Account Class

- a) Implement an abstract class called Account. Have the following properties accountNo, name, balance.
- b) Implement a Deposit() method to deposit money. The amount deposited should update the balance.
- c) Implement a constructor to get values to the Account class.
- d) Have an abstract method called calculateInterest () which returns a double value.
- e) Implement a method to display() the account details.



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FixedDepositAccount Class

- f) Implement a new class called FixedDepositAccount which extends the Account class.
- g) It should have a new property called interestRate and Interest.
- h) Write a setter and getter for the interestRate.
- i) Implement the calculateInterest() method assuming that the Balance has been held for the entire year. interest = balance * interestRate/100;

SavingsAccount Class

- j) Implement a new class called SavingAccount which inherits the FixedDepositAccount class
- k) Implement a withdraw() method that allows you to withdraw money from the SavingsAccount.
- I) Implement the calculateInterest() method assuming that the Balance has been
 held for the one Month. Interest = balance * interestRate/100/12;

Create objects from the FixedDeposit and SavingAccount. Call the Deposit() and withdraw() methods (Only SavingsAccount have withdrawals)