**Essay**

**Topic: book management**

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**I. Learning language c#**

**1. introduction language c#**

C# is a object oriented programing language developed by microsoft. it is a template net.NET Framework and used to build many window applications, web, telephone and computer.

C# is a strength programming language and flexible. designed to learn and use easy. It supports multiple modern fucion, example as object-oriented programming, dynamic type testing, and runtime compilation.

**2. Import and export data**

In C# have 2 popular methods to Import and export data form console:

console.read(): this funcions read 1 char form console.

Console.ReadLine()`: this funcions read a char string form console.

Example:

//Import a char

char c = Console.Read();

//Import a string

string str = Console.ReadLine();

It have two popular method export to console:

Console.Write(): this funcions used to prin a char to the console

Console.WriteLine(): this funcions used to prin a char to the console and down the line

Example:

// print a char

Console.Write("Ký tự: ");

Console.Write(c);

// print a char string

Console.WriteLine("Chuỗi ký tự: ");

Console.WriteLine(str);

**3. Datatypes**

C# provide many funcions differrent, include:

Type int float double.

T ype logic bool

T ype character: char

T ype string: string

**4. Control condition**

C# provide many funcions differrent, include:

conmand condition if: in programming used to indentifi a block source wil be execute if conditon is true

if (condion)

{

// command executed if conditon true

}

conmand condition else in programming used to indentifi a block source wil be execute if conditon in if is false

if (condion)

{

// command executed if conditon true

}

else

{

// command execute if condition false

}

Command else if: In programming used to add many check conditions events after an if command. it allow check conditions diffirents in order and execute source block of first cinditons í rights.

if (condion)

{

// command executed if conditon true

}

else if (conditon 2)

{

// command executed if condition 1 is false and conditon 2 is true

}

else

{

// command execute if condition 1 and 2 false

}

Command switch: The expression in a switch statement is evaluated once

value of expresstion are compared ưith value of ech case in command switch

if have match other. link source code block with that case will be executed

in condion break used to end of command swith after case case has been made.if it don"t break, the program wil contunue perform differentscases it down without checking condition.

Char key deafault is option and used execute when don't have cases machs.

switch(biểu thức)

{

case 1:

// command block

break;

case 2:

// command block

break;

default:

// command block

break;

}

Command loop: while , do/while, for, for each

In command loop ưhile: in programming used to interate thought a source code block while have a

specially condition is true

Ưhile(condition)

{

//command code executed

}

Command do/while: is a variant of interate while. Specially, iterate do/while will perform a source code block inside before check condition. If condition is true, it wil continue

do

{

// command executed

}

while (condition);

Command for: in programming used to when you know extractly number of iterations you want to perform. Command for usualy used to control iterate with number of iterate permanent.

Command 1: do it only once before code blcok inside is done.usually used to start up iterate variable.

Command 2: determined check condition before every iteration. If condition is true, source code block inside will be perform. If is false, end the iterate.

Command 3: do it before every code block inside be done. Usually used to change value of iterate variable.

for (condition 1; condition 2; condition 3)

{

// command executed

}

Command for ech: usually used to iterate over each element in array or list. It help with implementation action above element one way convenient.

foreach (type name variable in name array)

{

// command executed

}

Command jump: break, continue:

Command break: use to escape form iterate or jump out a command switch.

Comand continue: command continue used to end the iterate at a certain point and move on with next iterate, ignore rest of iterate now. This command usually used to ignore some loop on a certaint conditon.

**5. Funcions**

In c#, funcions is a code block used to perform a specific task. Funcions can be declared in a class, struct, or namespace.

Struct of funcion in c# such as:

[key word] [return datatype] [name funcions] ([list of parameter])

{

// The function is processing command block

}

Include:

[Key word] is option keywords, can be used to specifies the properties of the function, such as:

Static: static funcion, can be call without crate an object of the class containning the funcion.

Public: public funcions, can be call every where in program.

Private: private funcions, it just call in class containning funcions.

[return datatype] is datatype of value that the funcions return. If funcions don’t return value then use key word void.

[funcions name ] is name of funcion. the funcions name must be a valid name according to the roles set name in c#

[list of element ] is list of elements is passed into the function. If funcions don”t have element then list element is a sign an empty curly brace (()).

**II. learn Winforms**

**1. Concept winform**

Winform is a gui library open source and free, contain such as a part of microsoft.NET Framework or Mono Framework, provider template to write many abundant differrent application for computer, laptop and table computer.

Winform is a GUI library provider a set of control available graphics, such as button, textbox, listbox,...can be use to create interface user for application. Winforms also provider some advance option, such as to help data and animations.

Here it is some concept and main characteristics for WinForm:

Form: is main window for application, where controls and ingredient sets to create interface user.

Control: ingredient such as import data, list,....used to build interface user application,

Threding: Winforms can’t help management many threading to both works treament, avoid frezze interface user in works process long-term.

Event: Winform use figure programming on event, it is many actions such as click button, move mouse will be trigger process trigger.

Data binding: allow data links between control and source data, normally used to with languae programming c# or VB.NET.

Visual Studio: Eviroment development intergration used to development application Winforms, normally used with language programming c# and many language.

**II. Main Features.**

**1. GUI interface**

WinForms provide somes controls such as button, textbox, label, and grid. It can help create GUI interface use easy.

**2. Flexible and use easy.**

Design interface directly in Visual Studio, just with control pull and through, help development applications easy and fast.

**3. Intergration with .NET Framework**

WinForms intergration with .NET Framework, can used to feature of .NET such as management memory self-control, exception handing, and class library.

**4. Expand and option\**

Can create many simple applications or complex depending project requirement.

It helps create option controls and flexible in event handle.

**5. helps multy-language and device.**

WinForms helps internationalize, helps easy change and application display on multy-language and diffirent device.

**III. Popular control in WinForms.**

Is main window of application, where contain diffirent controls.

**2. Button**

Used to performs actions when buttoned.

**3. Textbox**

Allow user import documents or data.

**4. Label**

Display document can’t edit, normally used to display infomation.

**5. DataGridView**

Allow display and edit documents in table form.

6. Combobox and listbox

Allow user select 1 or lost of data form list.

**7. MenuStrip and ToolStrip**

Provider menu bars and toolbars tô establish and performed features of application.

**IV. Development and extention**

**1. Visual studio**

Winform strongly supported in Visual Studio, eviroment extentions development of Microsoft.

**2. third part library.**

Community development created many third part library widely, it can’t natural intergrate with technology modern such as blazor or MAUI of Microsoft.

**III. Learn SQL sever**

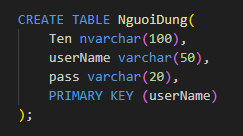
SQL server is administrator database of company Microsoft, use to design data by way use tables( tables), relationships, query, store procedure, funcion and trigger. Look like diffirent relationships (Oracle, MySQL, DB2, MongoDB,...). when work with SQL sever, user must be implementation connect by command retrieval.

Some control administrator user SQL Server contain:

Create database: right click on Database, choose new database, set name and click OK.



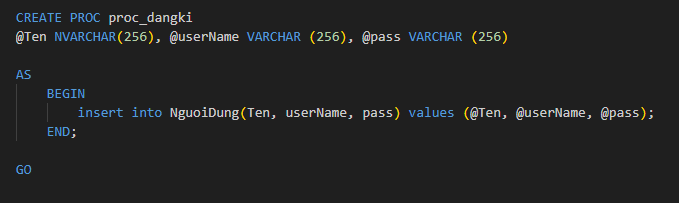
Create tables: Enter Database, right click on tables, choose New, choose tables: set name column, datatype, choose allow null or no. Select save to set name of tables

.

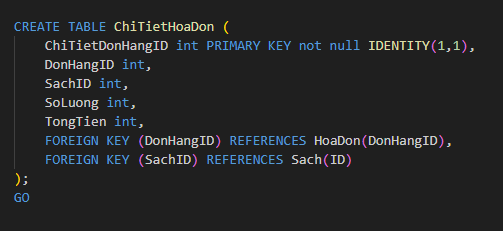
Crate query: right click on Database, select New Query ( or select New Query on tool bar).

Create bind: right click on Data Diagrams, select New Database Diagram, setting relationships then save it.

Create procedure: in Programability, right click on Store Procedures select Store Procedure,... to write Procedures.



Create funcions: Enter Programmability, right click on Funcion choose New, select Scalar-Valued Funcions to write Funcions



Recovery and save database: right click on Database, select Task, choose Backup or Restore.

**II. Main features**

**1. Data management**

SQL server helps storage and management in table form.

Establish data to column and row, helps easy search and retrieve.

**2. language SQL**

SQL server used retrieve language SQL(struct Query Language) to contact with database.

**3. security and right management.**

SQL server provider many features strongly security, containing: rights management and decide right managements.

Admin can control rights acess, fix and delete data.

**4. ability expand**

SQL Server supported ability expand by way increase size database and quantity user.

**5. Intergrate with technology of Microsoft.**

SQL server closely compatible with the platform of Microsoft, specially is .NET Framework.

It can easy intergrate with applications and diffirent service of Microsoft.

**6. storage and recovery data.**

Provider vehicle to recovery and storage, protect data loss and damage.

**IV. Features decription**

Login:

User provider infomation login (name login, password).

Import private infomation (name, email, name login, password).

The system checks the validity and creates a new account.

**2.2 List Management**

Add book:

Staff import new book information into GUI.

New data add into database SQL server.

Delete book:

Staff select a book in list and confirm delete.

Data influent will be update in database.

Edit infomation book:

Staff select a book and update infomation.

Data willbe save database.

**2.3 management bill and bill details**

Sell book

Staff select a book and import quantity need to sell.

Systems create a new bill and update bill details.

Bill and bill details:

Each one trade sell book, create a new bill.

Bill details connect with book, quantity, price and into money.

**2.4. Chart**

⦁ Book Statistics:

⦁ Create a statistical chart of the number of books by genre.

⦁ Charts make it easy for managers to track trends and categorize books.

⦁ Revenue Statistics:

⦁ Create monthly revenue statistics charts.

⦁ Charts help evaluate business performance and predict future trends.

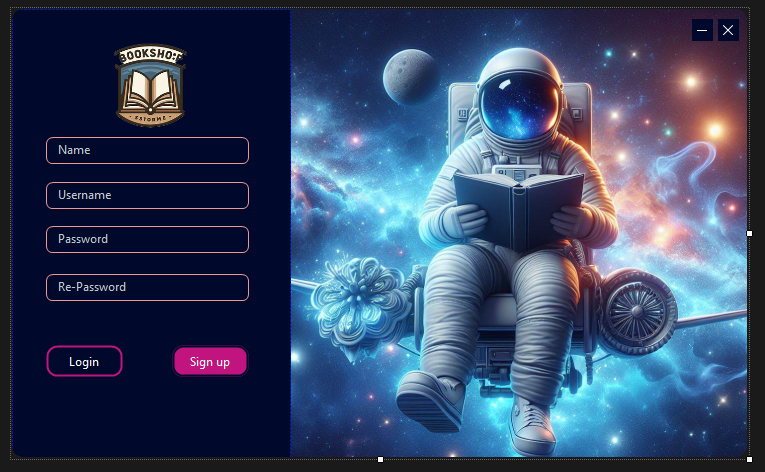
**UPDATE BOOK MANAGERMENT WITH FEARTURES SIGN UP**.

1. **Introduction**

Program book management has been added features sign up, with target expand right acess and user management . This features can help increase security and management user ìnomation effectively.

**II. New features**

**1 Sign up**



News user can select features “sigm up” form interface login.

They will import infomation esentinal such as name, email, name login and password.

Our system will check infomation and create a new account if infomation vailid.

**2. Confirm sign up**

When after sign up, user will confirm a email sign up or code confirm to trigger account.

**3. Management infomation user**

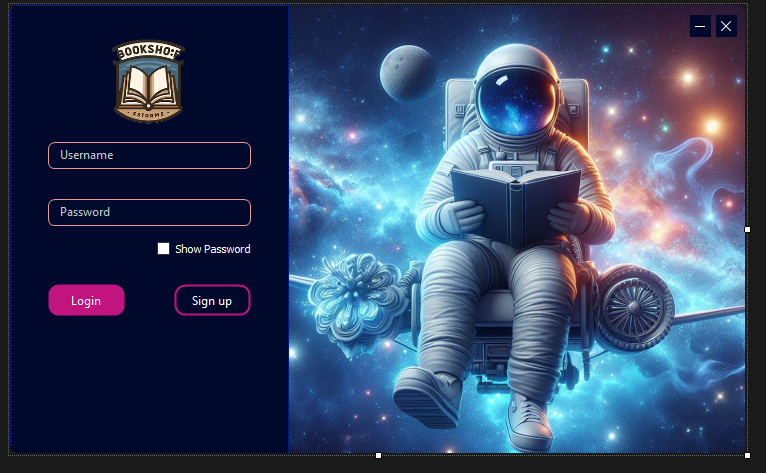
User can access personal information, changed password and update personal information form interface user.

**III. Connect to SQL Server**

New data tables added into database to storage user infomation, containing name, email, name login, and password has been encrypted.

Retrieves SQL has been update to added, comfirm and management user information.

**IV.User interface**



Interface login hassbeen update to containing features sign up

Management user interface has been imported to user can management personal infomation

**V. Depending and future features**

Increase feature sign up and confirm to experiment optimize user.

Added forgot password features to user can set password if they need it.

**Season 3: Conclude**

This program book management combine between flexible of language c# and utility interface of winforms with ability management of SQL server. Intergrate feature login, sign up, book management, bill and system create strongly application, flexible and easy to used. Throuht this essay, we has been went deep into this aspect, provider popular vision soiled about programming c# and application development used WinForms and SQL Server.