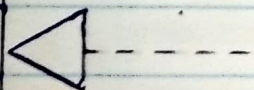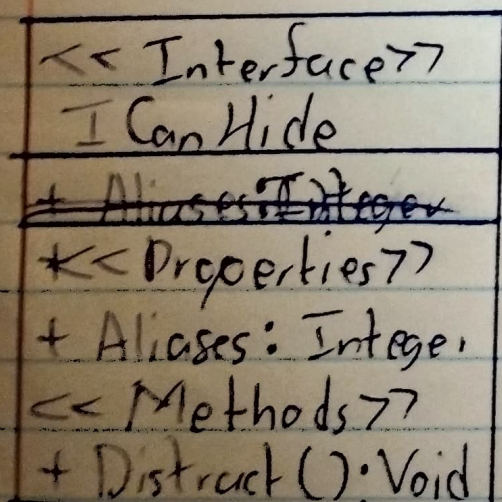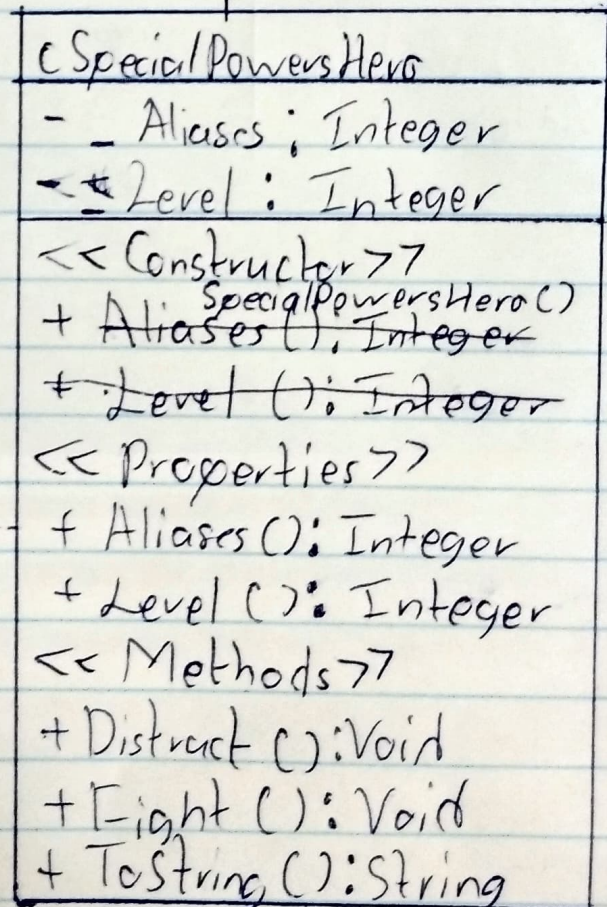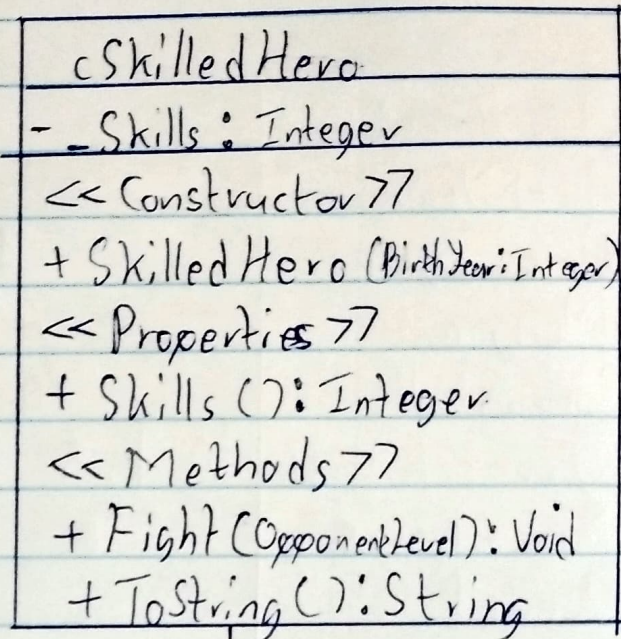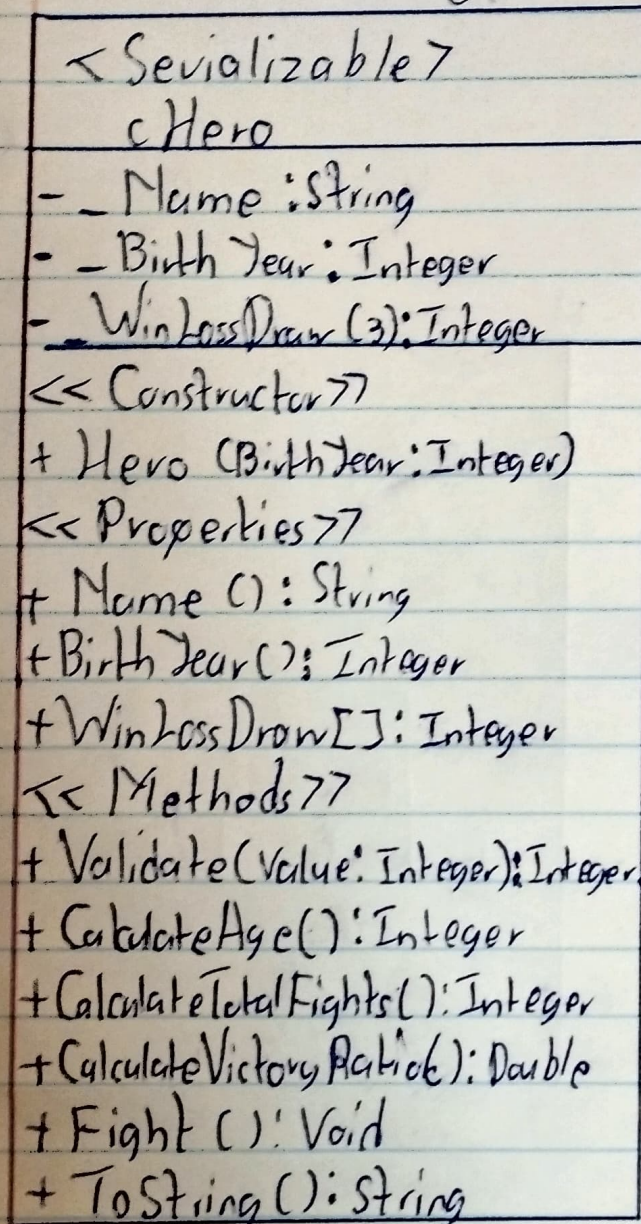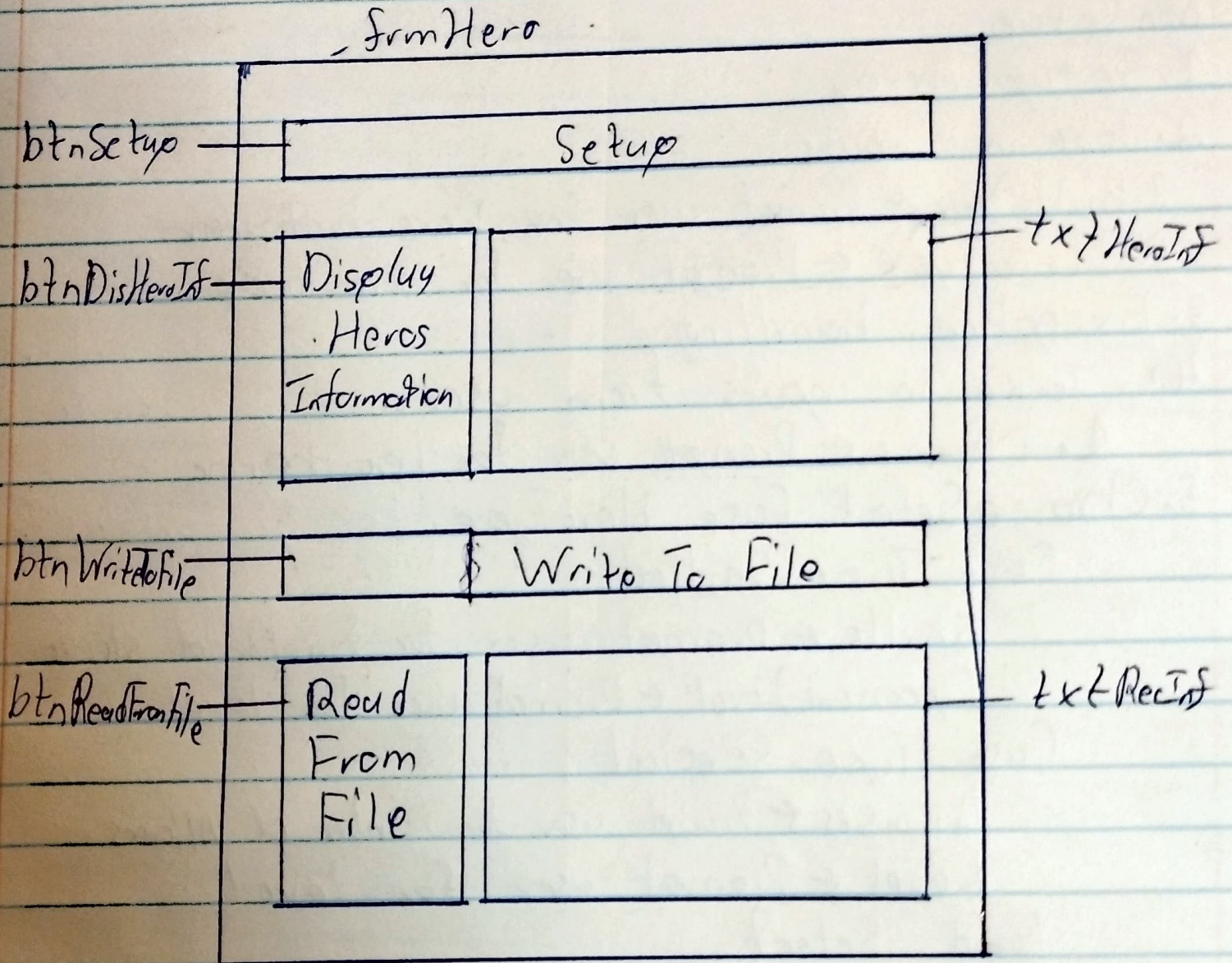| Inputs	Outputs
• Number of objects, type of object and values for each object	• Name, Age, Fight statistics and percentage of victorious for each hero
	• Details for special powers hero with even number of Aliases - *

Variables

- Heros() - cHero
- Skilled Hero - cSkilled Hero
- Special Hero - cSpecial PowersHero
- Hero Type - Integer
- FS - FileStream
- BF - Binary Formatter
-

Hero

‹‹Serializable››
cHero

- – _Name : String
- – _Birth Year : Integer
- – _WinLossDraw (3) : Integer

‹‹Constructor››
+ Hero (BirthYear : Integer)

‹‹Properties››
+ Name () : String
+ BirthYear () : Integer
+ WinLossDraw [] : Integer

‹‹Methods››
+ Validate (Value : Integer) : Integer
+ CalculateAge () : Integer
+ CalculateTotalFights () : Integer
+ CalculateVictoryRatio () : Double
+ Fight () : Void
+ ToString () : String

SkilledHero

cSkilledHero

- – _Skills : Integer

‹‹Constructor››
+ SkilledHero (BirthYear : Integer)

‹‹Properties››
+ Skills () : Integer

‹‹Methods››
+ Fight (OpponentLevel) : Void
+ ToString () : String

ICanHide

‹‹Interface››
ICanHide

+ Aliases : Integer

‹‹Properties››
+ Aliases : Integer

‹‹Methods››
+ Distract () : Void

SpecialPowersHero

cSpecialPowersHero

- – _Aliases : Integer
- – _Level : Integer

‹‹Constructor››
+ SpecialPowersHero ()
+ Aliases () : Integer
+ Level () : Integer

‹‹Properties››
+ Aliases () : Integer
+ Level () : Integer

‹‹Methods››
+ Distract () : Void
+ Fight () : Void
+ ToString () : String

Events	Actions
btnSetup is clicked	• Resize Arrays • Take in inputs from user • Store types of objects in hero object array.
btnDisHeroInf is clicked	• Display information for each hero in text-box.
btnWriteToFile is clicked	• Write information to file
btnReadFromFilo is clicked	• Read information from file • Display information for special powers hero.

Interface

frmHero

btnSetup	Setup
btnDisHeroInf	Display Heros Information
	txtHeroInf
btnWriteTofile	$ Write To File
btnReadFromfile	Read From File
	txtRecInf

Algorithm

btn Setup
1. Setup Array
2. Take in inputs
   1. BirthYear ← Prompt user for hero birthyear
   2. HeroType ← Prompt user for hero type
3. Exception handling
4. Take in inputs from user
   1. Name ← Prompt user for hero name
5. ~~Choice~~ Select Case HeroType
      Case Type.Skilled
         Skills ← Prompt user for number of skills
         Opponent Level ← Prompt user for level
      Case Type.Special
         Aliases ← Prompt user for number of Aliases
         Level ← Prompt user for level
      End Select

btn DisHeroInf
1. Display information for each hero
   1. txtHeroInf.Text ← Hero(Index).ToString

btn Write To File
   1. Write Information To File

btn Read From File
   1. Read from file
   2. Display information from file to textbox.

Test Data

Num Heros:		2				
Birth Year:	2000		1499			
Hero Type	1		2			
Name	H1		H2			
NumSkills	10					
Opponent Level	10	5	15			
Num Aliases	13		5			
Level			11			
Opponent Level			11	5	6	
Age	23		24			
Win Draw Loss	1, 0, 2		2, 0, 1			
Victorious	33.33%		66.67%			