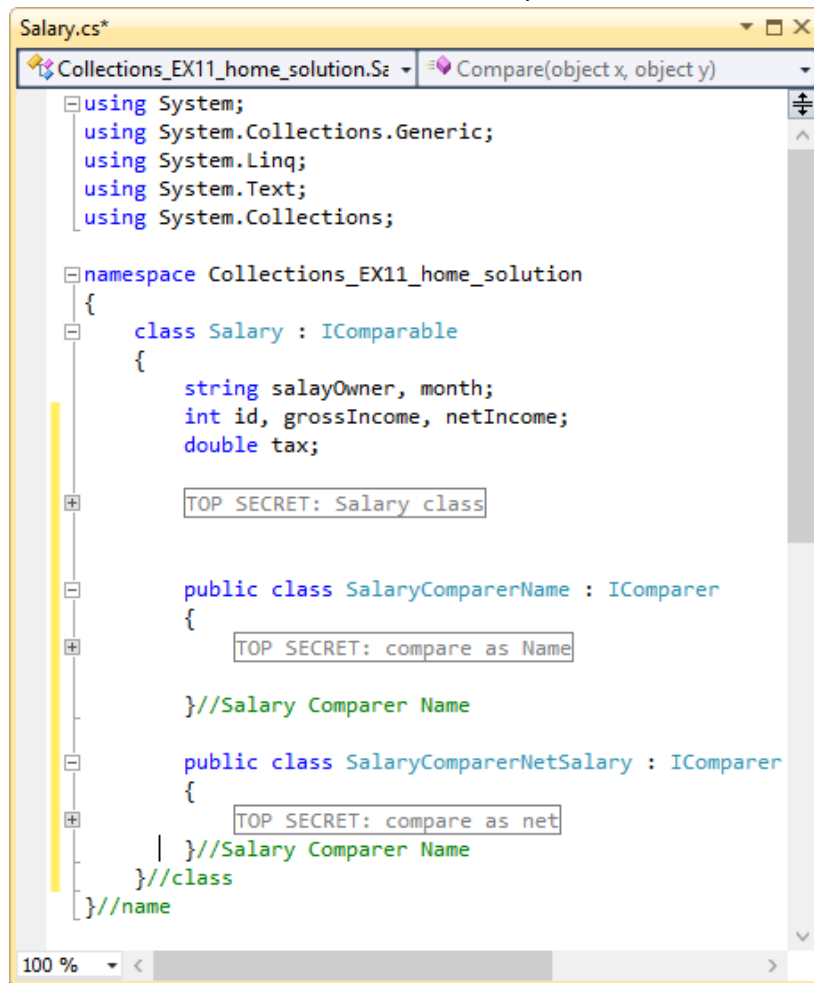


## תרגיל בית 9 | Collections

לשרל'ה יש מסעדה קטנה, היא פנתה אלינו בבקשה לבנות לה מערכת שתסייע לה בחישובי השכר לעובדים (אנחנו כמובן הסכמנו... כמו שאתם בטח כבר מבינים).

1. עליכם לבנות מחלקת `Salary`.

מחלקה זו, תירש את `IComparable`, היא בעלת 6 משתנים (ראו בתמונה) ושתי מחלקות פנימיות שיורשות `IComparer`:



2. למחלקה הבנאי השיטות הבאות: (יש הבהרות בדף הבא)

```
public Salary(int id, string salaryOwner, string month, params int[] shiftsRevenues) {...} //ctor
private int NetSalaryCalculator(int[] shiftsRevenues) {...} //Net Salary Calculator
public int CompareTo(object obj) {...} //CompareTo
public override string ToString() {...} //ToString
```

שימו לב: אין לשנות  
חתימות של פונקציות

**שימו לב-** הבנאי מקבל נערך מספרים בגודל לא ידוע. בבנאי יאותחלו 4 משתנים בלבד. (המשתנים האחרים יאותחלו בשיטה NetSalaryCalculator): ת"ז, שם בעל המשכורת, החודש ושכר הנטו (שיאותחל באמצעות NetSalaryCalculator).

3. מחלקה נוספת בשם MyAccountant:  
למחלקה זו 3 מערכים:

```
Salary[] salariesAsArray;  
ArrayList salariesAsList;  
Hashtable salariesAsHashtable;
```

4. בנאי המחלקה יקבל מערך משכורות בלבד. יש לאתחל את שלושת מערכי המחלקה באמצעותו (בעזרת שיטות חיצוניות).

יש לממש 2 INDEXERS: אחד שיחזיר את כל המשכורות לפי ת"ז והשני לפי חודש. למחלקה זאת שיטה/שיטות הדפסה (תחפשו את הפתרון היעיל ביותר שתחשבו עליו). [טיפ- תחזרו לסעיף הזה אחרי בניית המערך והתפריט בשאלות הבאות]

5. לנוחיותכם (אתם יכולים לכתוב כל מערך שתרצו..) צרו את המערך הבא:

```
Salary[] salaries = new Salary[9]{  
    new Salary(11111, "John (Secretary)", "January", new int[]{100, 300, 500, 240}),  
    new Salary(22222, "Salim (Cleaner)", "January", new int[]{20, 25, 50, 40, 50, 30}),  
    new Salary(33333, "Sara (Boss)", "January", new int[]{1000, 1100, 800}),  
    new Salary(11111, "John (Secretary)", "February", new int[]{200, 200, 70, 20}),  
    new Salary(22222, "Salim (Cleaner)", "February", new int[]{30, 40, 20, 40, 100, 250}),  
    new Salary(33333, "Sara (Boss)", "February", new int[]{1200, 800}),  
    new Salary(11111, "John (Secretary)", "March", new int[]{20, 300, 50, 40}),  
    new Salary(22222, "Salim (Cleaner)", "March", new int[]{100, 300, 200, 300}),  
    new Salary(33333, "Sara (Boss)", "March", new int[]{800, 1300, 500, 600})  
}; //salaries
```

6. יש ליצור את התפריט הבא:

```
Select:  
1- print salaries as Salary[]  
2- print salaries as ArrayList  
3- print salaries as Hashtable  
4- print salaries for month  
5- print salaries for ID  
6- print sort by names  
7- print sort by net salary  
8- END OF SHIFT  
_
```

```
C:\WINDOWS\system32\cmd. x + v
Select:
1- print salaries as Salary[]
2- print salaries as ArrayList
3- print salaries as Hashtable
4- print salaries for month
5- print salaries for ID
6- print sort by names
7- print sort by net salary
8- END OF SHIFT
```

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C:\WINDOWS\system32\cmd. x + v
Select:
1- print salaries as Salary[]
2- print salaries as ArrayList
3- print salaries as Hashtable
4- print salaries for month
5- print salaries for ID
6- print sort by names
7- print sort by net salary
8- END OF SHIFT
1
Salay Summary: name: John (Secretary) month: January
gross: 1140 tax: 228 net: 912 :((

Salay Summary: name: Salim (Cleaner) month: January
gross: 215 tax: 43 net: 172 :((

Salay Summary: name: Sara (Boss) month: January
gross: 2900 tax: 580 net: 2320 :))

Salay Summary: name: John (Secretary) month: February
gross: 490 tax: 98 net: 392 :((

Salay Summary: name: Salim (Cleaner) month: February
gross: 480 tax: 96 net: 384 :((

Salay Summary: name: Sara (Boss) month: February
gross: 2000 tax: 400 net: 1600 :))

Salay Summary: name: John (Secretary) month: March
gross: 410 tax: 82 net: 328 :((

Salay Summary: name: Salim (Cleaner) month: March
gross: 900 tax: 180 net: 720 :((
```

```
C:\WINDOWS\system32\cmd. x + v
1- print salaries as Salary[]
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8- END OF SHIFT
2
Salay Summary: name: John (Secretary) month: January
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Salay Summary: name: Salim (Cleaner) month: January
gross: 215 tax: 43 net: 172 :((
Salay Summary: name: Sara (Boss) month: January
gross: 2900 tax: 580 net: 2320 :))
Salay Summary: name: John (Secretary) month: February
gross: 490 tax: 98 net: 392 :((
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gross: 410 tax: 82 net: 328 :((
Salay Summary: name: Salim (Cleaner) month: March
gross: 900 tax: 180 net: 720 :((
Salay Summary: name: Sara (Boss) month: March
gross: 3200 tax: 640 net: 2560 :))
```

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8- END OF SHIFT
3
Salay Summary: name: Sara (Boss) month: March
gross: 3200 tax: 640 net: 2560 :))
Salay Summary: name: Salim (Cleaner) month: March
gross: 900 tax: 180 net: 720 :((
Salay Summary: name: John (Secretary) month: March
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```

```
C:\WINDOWS\system32\cmd. x + v - □ X

Select:
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4- print salaries for month
5- print salaries for ID
6- print sort by names
7- print sort by net salary
8- END OF SHIFT
4
Enter month:
March
Salay Summary: name: John (Secretary) month: March
gross: 410 tax: 82 net: 328 :((

Salay Summary: name: Salim (Cleaner) month: March
gross: 900 tax: 180 net: 720 :((

Salay Summary: name: Sara (Boss) month: March
gross: 3200 tax: 640 net: 2560 :))
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4- print salaries for month
5- print salaries for ID
6- print sort by names
7- print sort by net salary
8- END OF SHIFT
5
Enter ID:
22222
Salay Summary: name: Salim (Cleaner) month: January
gross: 215 tax: 43 net: 172 :((

Salay Summary: name: Salim (Cleaner) month: February
gross: 480 tax: 96 net: 384 :((

Salay Summary: name: Salim (Cleaner) month: March
gross: 900 tax: 180 net: 720 :((
```

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3- print salaries as Hashtable
4- print salaries for month
5- print salaries for ID
6- print sort by names
7- print sort by net salary
8- END OF SHIFT
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Salay Summary: name: John (Secretary) month: March
gross: 410 tax: 82 net: 328 :((

Salay Summary: name: John (Secretary) month: February
gross: 490 tax: 98 net: 392 :((

Salay Summary: name: John (Secretary) month: January
gross: 1140 tax: 228 net: 912 :((

Salay Summary: name: Salim (Cleaner) month: March
gross: 900 tax: 180 net: 720 :((

Salay Summary: name: Salim (Cleaner) month: February
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Salay Summary: name: Salim (Cleaner) month: January
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Salay Summary: name: Sara (Boss) month: March
gross: 3200 tax: 640 net: 2560 :))

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gross: 2000 tax: 400 net: 1600 :))

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gross: 2900 tax: 580 net: 2320 :))
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5- print salaries for ID
6- print sort by names
7- print sort by net salary
8- END OF SHIFT
7
Salay Summary: name: Salim (Cleaner) month: January
gross: 215 tax: 43 net: 172 :((
Salay Summary: name: John (Secretary) month: March
gross: 410 tax: 82 net: 328 :((
Salay Summary: name: Salim (Cleaner) month: February
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Salay Summary: name: John (Secretary) month: February
gross: 490 tax: 98 net: 392 :((
Salay Summary: name: Salim (Cleaner) month: March
gross: 900 tax: 180 net: 720 :((
Salay Summary: name: John (Secretary) month: January
gross: 1140 tax: 228 net: 912 :((
Salay Summary: name: Sara (Boss) month: February
gross: 2000 tax: 400 net: 1600 :))
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gross: 2900 tax: 580 net: 2320 :))
Salay Summary: name: Sara (Boss) month: March
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5- print salaries for ID
6- print sort by names
7- print sort by net salary
8- END OF SHIFT
8
Have a nice day!
```



בהצלחה!