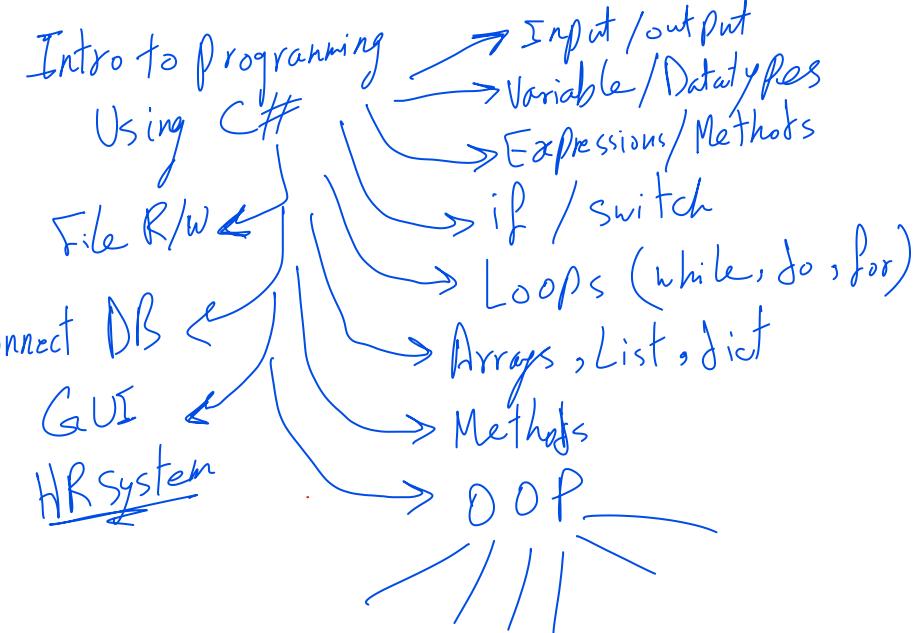
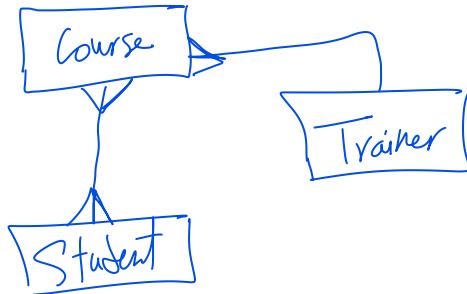


Web Development

- * C# Programming
- * Querying SQL
- * HTML, CSS & JS
- * ASP.NET MVC



Errors:

- * Syntax
- * Runtime
- * Logic

input
storage
process
output

Salary → variable
byte, short, int, long
float, double
char, string

$$\text{annual Salary} = \text{Salary} * 12$$

mark fullMark
23 25

$$\text{pct} = \frac{\text{mark}}{\text{fullMark}} * 100$$

92

Math Operators

- ① → * / %
② → + -

$$5 / 2 \rightarrow 2$$

$$5.0 / 2 \rightarrow 2.5$$

$$7 \% 3 \rightarrow 1$$

$$11 \% 3 \rightarrow 2$$

int $x = 5;$

int $y = 2;$

(double) $x / y \rightarrow 2.5$

$10 \% 2 \rightarrow 0$

3 + 6 / 3 2 5
12 4

Assignment Operators

`int x = 5;`
 $x = 3;$
 $x = \cancel{x} + 5;$

$x += 2$

$x *= 3$

$x -= 5$



$x++;$
 $cw(x++) \rightarrow 26$
 $cw(++x) \rightarrow 28$
 $cw(x--) \rightarrow 28$

Math Methods

`Math.Pow(5, 2) \rightarrow 25`

`Math.Sqrt(25) \rightarrow 5`

`Math.Max(5, 2) \rightarrow 5`

`Math.Min(5, 2) \rightarrow 2`

`Math.Round(19.637) \rightarrow 20`

`Math.Round(19.637, 1) \rightarrow 19.6`

\vdots



weight height
 68 182

$$bmi = \frac{\text{weight}}{(\text{height}/100)^2} \times (\text{height}/100)$$

$20.52 \dots$

$$bmi = \frac{\text{weight}}{(\text{height}/100)^2}$$

< 18.5	Underweight
< 25	Normal
< 30	Overweight
	Obese

`if (bool -expr) {`
 $\quad \quad \quad \text{true}$
 $\}$
 $\quad \quad \quad \text{always}$

`if (bool -expr) {`
 $\quad \quad \quad \text{true}$
 $\} \text{ else } \{$
 $\quad \quad \quad \text{false}$
 $\}$
 $\quad \quad \quad \text{always}$

Relational Operators

$>, >=, <, <=$
 $==, !=$

$x = 5$ $\boxed{5}$

$x == 3$ $x != 3$
 false true

```

if ( bool-expr ) {
    |
    |
}
} else if ( bool-expr ) {
    |
    |
}
} else if ( bool-expr ) {
    |
    |
}
}
;
else {
    |
    |
}
}

```

1
F,T
F,F,T
all false
always

Logical Operators

$\text{bool-expr} \&& \text{bool-expr}$
 $\|\$

$! \text{bool-expr}$

 day	 day
1-5 → work-day	7,1-4 → work-day
6,7 → off-day	5,6 → off-day
else → Invalid	else → Invalid

```

switch ( expr ) {
    case value1:
        |
        |
        break;
    case value2:
        |
        |
        break;
    :
    default:
        |
        |
}

```

what's $7 * 3$?
 ≥ 21
correct
 $\gg 13$
Wrong

Ternary Operator

$\text{bool-expr} ? \text{Value-true} : \text{Value-false}$

```

while ( bool-expr ) {
    |
    |
}
}

```

true
false

$\text{do} \{$
 $x \text{true} \rightarrow$
 $\} \text{while} (\text{bool-expr});$

$\text{for} (\text{init} ; \text{bool-expr} ; \text{change}) \{$
1 $x = 1$
2 $x \leq 10$
3 true
4 $x++$

what's $5 * 2$?

⇒ 10

what's $3 * 7$?

⇒ 21

what's $4 * 9$?

⇒

!

⇒ 13

Game Over!!

what's $7 * 3$?

⇒ 13

Try again, what's $7 * 3$?

⇒ 7

Try again, what's $7 * 3$?

⇒

!

⇒ 21

Correct

what's $2 * 9$?

⇒ 18

Correct

what's $7 * 5$?

⇒ 13

wrong

what's $2 * 8$?

⇒

_____?

=

_____?

=

Your score is 3 out of 5

Enter num of students: 4

Enter exam full mark: 25

Enter std. mark: 23

$$\text{Pct} = \frac{\text{mark}}{\text{fullMark}} * 100$$

≥ 50 Pass

< 50 Fail

of Pass student is: 2

Enter num of visitors: 4

Enter visitor age: 5

~ ~ ~ : 3

~ ~ ~ : 21

~ ~ ~ : 60

totalCost

0

5

15

25

33

age

>50 → 8

>20 → 10

>2 → 5

The total cost: 33 SAR