

Programming in Java

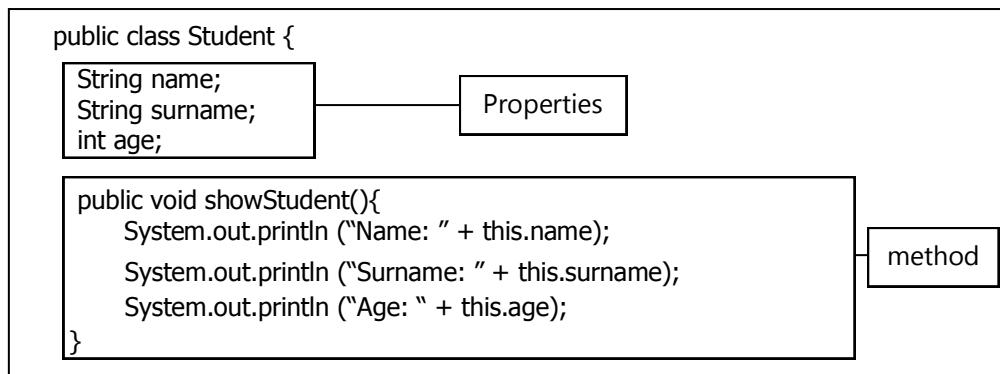
An Object Oriented Approach To SEC Level

JAVA QUICK REFERENCE

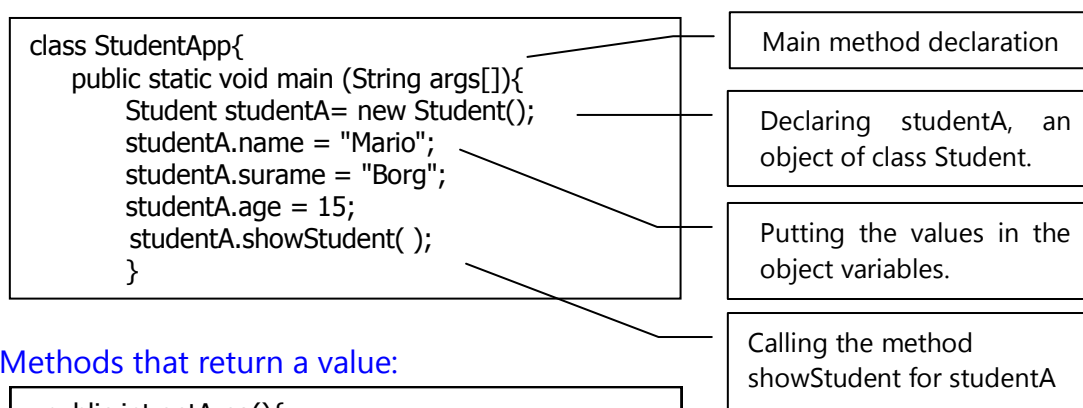


A Simple Class

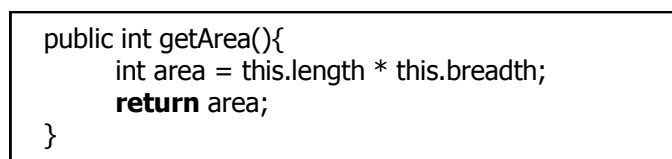
This is the class **Student**, it has 3 properties and one method called showStudent():



The Main Method, Creating an instance of a class, calling Methods



Methods that return a value:



Keyboard Input using Scanner class

1. Import Scanner utility

```
import java.util.Scanner;
```

2. Create a Scanner object

Type	Variable name	=	new	type	();
Scanner	input	=	new	Scanner	(System.in);

3. Read data from keyboard into variables

Reading an integer	int a = (input.nextInt());
Reading a double variable	double a = (input.nextDouble());
Reading a String variable	String a = (input.nextLine ());

The Math Class

Importing the Math class: **import static java.lang.Math.*;**

Method	Description
pow(int y, int x)	Returns y to the power of x.
sqrt(double x)	Returns the square root of x.
random()	Returns a pseudo random number between 0 and 1.

Decisions

If..else

```
if (mark == 100){
    System.out.println ("Well Done");
}
else {
    System.out.println ("Not full marks");
}
```

Case/Switch

```
switch (choice) { //choice is a variable
    case 1: {
        //statement/s;
        break;
    }
    case 2: {
        //statement/s;
        break;
    }
    default: {
        //statement/s;
    }
}
```

While Loop

```
import java.util.Scanner;
class WhileExample{

    public static void main (String args[]){
        Scanner input = new Scanner (System.in);
        int num = 7;

        System.out.print ("Enter your guess: ");
        int guess = (input.nextInt());

        while (guess != num){
            System.out.println();
            System.out.println ("Wrong guess. Retry");
            System.out.print ("Re-enter guess: ");
            guess = (input.nextInt());
        }

        System.out.println ("Correct guess");
    }
}
```

Do..While Loop.

```
import java.util.Scanner;
class Menu{

    public static void main (String args[]){
        Scanner input = new Scanner (System.in);
        int choice;

        do {
            System.out.println ("MENU");
            System.out.println ("1. Enter Student ");
            System.out.println ("2. View Student");
            System.out.println ("3. Exit");
            System.out.print ("Enter choice:");

            choice = (input.nextInt());
        } while (choice!=6);
    }
}
```

For loops

```
for (x=1; x<=10; x++) {
    System.out.println("x=" +x);
}
```

for	(	initialization	;	condition	;	iteration	)
for	(	i = 0	;	i<10	;	i++	)

Arrays

Declaring and using an array (In this example the array is called markList)

array-variable	=	new	type	[size];
int[]	=	new	int	[5];

```
for (i=0;i<5;i++){
    System.out.print ("Enter mark: ");
    this.markList[i] = (input.nextInt());
}
```

Using a for loop to go round an array called markList