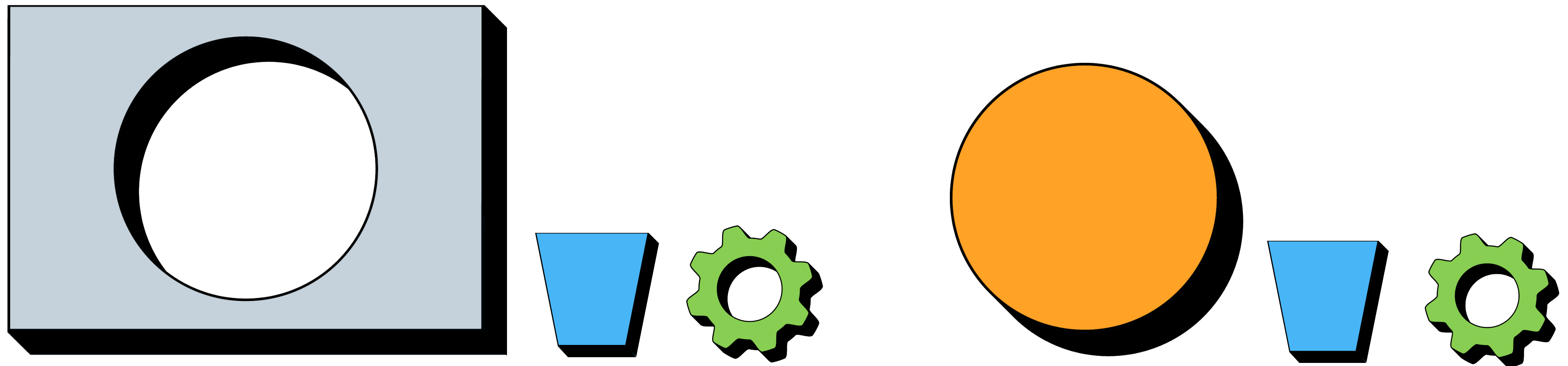


Essential Computing 1

Static & non-static



Static variable
(belonging to class)

```
Bag.defaultCount = 5;
```

Non-static variable
(belonging to object)

```
Bag bag = new Bag();  
bag.count = 5;
```

Static variable
(belonging to class)

```
Bag.defaultCount = 5;
```

Class name is used to access variables

Non-static variable
(belonging to object)

```
Bag bag = new Bag();  
bag.count = 5;
```

Static variable
(belonging to class)

```
Bag.defaultCount = 5;
```

Non-static variable
(belonging to object)

```
Bag bag = new Bag();  
bag.count = 5;
```

Variable name (reference to object) is used to access variable

Static variable
(belonging to class)

```
public class Bag {  
    static int defaultCount;  
}
```

Non-static variable
(belonging to object)

```
public class Bag {  
    int count;  
}
```

Static method (belonging to class)

```
Bag b1 = new Bag();  
Bag b2 = new Bag();  
b1.count = 5;  
b2.count = 10;
```

```
Bag result = Bag.added( b1, b2 );
```

Non-static method (belonging to object)

```
Bag b1 = new Bag(5);  
Bag b2 = new Bag(10);  
b1.count = 5;  
b2.count = 10;
```

```
Bag result = b1.added( b2 );
```

Static method (belonging to class)

```
public class Bag {  
    int count;
```

```
    static Bag added( Bag b1, Bag b2 ){  
        Bag b = new Bag();  
        b.count = b1.count + b2.count;  
        return b;  
    }
```

```
}
```

Non-static method (belonging to object)

```
public class Bag {  
    int count;
```

```
    Bag added( Bag that ){  
        Bag b = new Bag();  
        b.count = this.count + that.count;  
        return b;  
    }
```

```
}
```

Static method (belonging to class)

```
public class Bag {  
    int count;
```

```
    static Bag added( Bag b1, Bag b2 ){  
        Bag b = new Bag();  
        b.count = b1.count + b2.count;  
        return b;  
    }
```

```
}
```

Non-static method (belonging to object)

```
public class Bag {  
    int count;
```

```
    Bag added( Bag that ){  
        Bag b = new Bag();  
        b.count = this.count + that.count;  
        return b;  
    }
```

```
}
```


The static initialiser is called when the class is loaded

```
public class Main
{
    static double[] sqrtLookup;

    static {
        sqrtLookup = new double[10];
        for( int i=0; i<sqrtLookup.length; i++ ){
            sqrtLookup[i] = Math.sqrt(i);
        }
    }
}
```