

Enumeration

```
public static final int FROSH = 1;
public static final int SOPHOMORE = 2;
public static final int JUNIOR = 3;
public static final int SENIOR = 4;
public static final int OTHER = 5;

private int askForYear() {
    while (true) {
        int year = readInt("Enter class year: ");
        if (year >= FROSH && year <= OTHER) return year;
    }
}
```

Converting Enumeration

```
private String getYearAsString(int year) {  
    switch (year) {  
        case FROSH:  
            return "Frosh";  
        case SOPHOMORE:  
            return "Sophomore";  
        case JUNIOR:  
            return "Junior";  
        case SENIOR:  
            return "Senior";  
        default:  
            return "Other";  
    }  
}
```

The ASCII Subset of Unicode

	0	1	2	3	4	5	6	7
00x	\000	\001	\002	\003	\004	\005	\006	\007
01x	\b	\t	\n	\011	\f	\r	\016	\017
02x	\020	\021	\022	\023	\024	\025	\026	\027
03x	\030	\031	\032	\033	\034	\035	\036	\037
04x	<i>space</i>	!	"	#	\$	%	&	'
05x	()	*	+	,	-	.	/
06x	0	1	2	3	4	5	6	7
07x	8	9	:	;	<	=	>	?
10x	@	A	B	C	D	E	F	G
11x	H	I	J	K	L	M	N	O
12x	P	Q	R	S	T	U	V	W
13x	X	Y	Z	[\]	^	_
14x	`	a	b	c	d	e	f	g
15x	h	i	j	k	l	m	n	o
16x	p	q	r	s	t	u	v	w
17x	x	y	z	{		}	~	\177

The letter A, for example, has the Unicode value 101_8 , which is the sum of the row and column labels.

Using Methods of Character

```
public void run() {  
    String str = readLine("Line: ");  
  
    char ch = str.charAt(0);  
    println("Original first char: " + ch);  
  
    ch = Character.toUpperCase(ch);  
    println("Uppercase first char: " + ch);  
}
```

Useful Methods in the Character Class

static boolean isDigit(char ch)

Determines if the specified character is a digit.

static boolean isLetter(char ch)

Determines if the specified character is a letter.

static boolean isLetterOrDigit(char ch)

Determines if the specified character is a letter or a digit.

static boolean isLowerCase(char ch)

Determines if the specified character is a lowercase letter.

static boolean isUpperCase(char ch)

Determines if the specified character is an uppercase letter.

static boolean isWhitespace(char ch)

Determines if the specified character is **whitespace** (spaces and tabs).

static char toLowerCase(char ch)

Converts **ch** to its lowercase equivalent, if any. If not, **ch** is returned unchanged.

static char toUpperCase(char ch)

Converts **ch** to its uppercase equivalent, if any. If not, **ch** is returned unchanged.

Working with `String`

```
public void run() {  
    String s1 = "CS106";  
    String s2 = "A";  
    String s3 = "I got an " + s2 + " in " + s1 + s2;  
  
    println(s3);  
}
```

I got an A in CS106A

Useful Methods in the `String` Class

`int length()`

Returns the length of the string

`char charAt(int index)`

Returns the character at the specified index. Note: Strings indexed starting at 0.

`String substring(int p1, int p2)`

Returns the substring beginning at `p1` and extending up to but not including `p2`

`String substring(int p1)`

Returns substring beginning at `p1` and extending through end of string.

`boolean equals(String s2)`

Returns true if string `s2` is equal to the receiver string. This is case sensitive.

`int compareTo(String s2)`

Returns integer whose sign indicates how strings compare in lexicographic order

`int indexOf(char ch) or int indexOf(String s)`

Returns index of first occurrence of the character or the string, or -1 if not found

`String toLowerCase() or String toUpperCase()`

Returns a lowercase or uppercase version of the receiver string

reverseString

```
public void run() {  
    private String reverseString(String str) {  
        String result = "";  
        for ( int i = 0; i < str.length(); i++ ) {  
            result = str.charAt(i) + result;  
        }  
        return result;  
    }  
}
```

result

DESSERTS

str

STRESSED

i

8

