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

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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.

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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

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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	str	i
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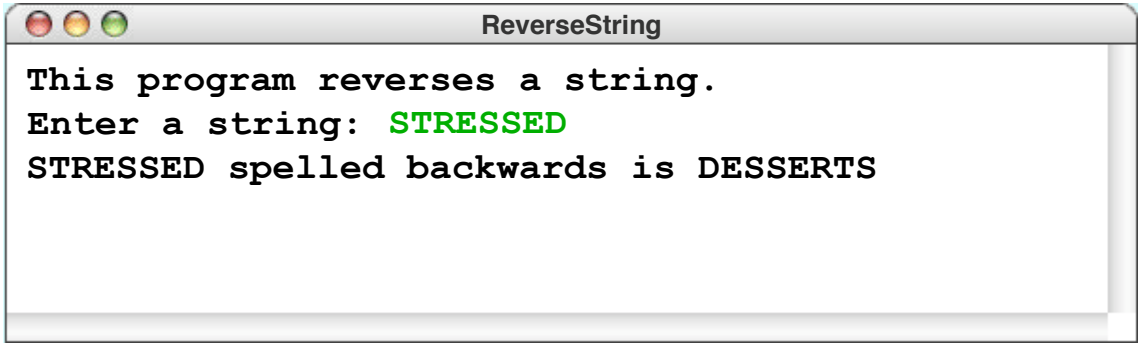

skip simulation

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