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# Modul:Unicode convert/Doku

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Dies ist die Dokumentationsseite für [Modul:Unicode convert](#)

## Usage

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Converts Unicode character codes, always given in hexadecimal, to their UTF-8 or UTF-16 representation in upper-case hex or decimal. Can also reverse this for UTF-8. The UTF-16 form will accept and pass through unpaired surrogates e.g. `{{#invoke:Unicode convert|getUTF8|D835}}` → D835. The reverse function `fromUTF8` accepts multiple characters, and can have both input and output set to decimal.

When using from another module, you may call these functions as e.g. `unicodeConvert.getUTF8 { args = {'1F345'} }`, without a proper frame object.

To find the character code of a given symbol (in decimal), use e.g. [Vorlage:MI](#) → 128049.

Code	Output
<a href="#">Vorlage:Mix</a>	F0 9F 8D 85
<a href="#">Vorlage:Mix</a>	240 159 141 133
<a href="#">Vorlage:Mix</a>	1F345
<a href="#">Vorlage:Mix</a>	127813
<a href="#">Vorlage:Mix</a>	D83C DF45
<a href="#">Vorlage:Mix</a>	55356 57157

## See also

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[Vorlage:Unicode templates](#)

## Modul:Unicode convert

### Usage

Converts Unicode character codes, always given in hexadecimal, to their UTF-8 or UTF-16 representation in upper-case hex or decimal. Can also reverse this for UTF-8. The UTF-16 form will accept and pass through unpaired surrogates e.g. `{{#invoke:Unicode convert|getUTF8|D835}}` → D835. The reverse function `fromUTF8` accepts multiple characters, and can have both input and output set to decimal.

When using from another module, you may call these functions as e.g. `unicodeConvert.getUTF8 { args = {'1F345'} }`, without a proper frame object.

To find the character code of a given symbol (in decimal), use e.g. `Vorlage:MI` → 128049.

Code	Output
<code>Vorlage:Mlx</code>	F0 9F 8D 85
<code>Vorlage:Mlx</code>	240 159 141 133
<code>Vorlage:Mlx</code>	1F345
<code>Vorlage:Mlx</code>	127813
<code>Vorlage:Mlx</code>	D83C DF45
<code>Vorlage:Mlx</code>	55356 57157

### See also

#### [Vorlage:Unicode templates](#)

```
local p = {}

-- NOTE: all these functions use frame solely for its args member.
-- Modules using them may therefore call them with a fake frame table
-- containing only args.

p.getUTF8 = function (frame)
    local ch = mw.usttring.char(tonumber(frame.args[1] or '0', 16) or 0)
    local bytes = {mw.usttring.byte(ch, 1, -1)}
    local format = ({
        ['10'] = '%d',
        dec = '%d'
    })[frame.args['base']] or '%02X'
    for i = 1, #bytes do
        bytes[i] = format:format(bytes[i])
    end
    return table.concat(bytes, ' ')
end

p.getUTF16 = function (frame)
```



```
    local codepoint = tonumber(frame.args[1] or '0', 16) or 0
    local format = ({ -- TODO reduce the number of options.
        ['10'] = '%d',
        dec = '%d'
    })[frame.args['base']] or '%04X'
    if codepoint <= 0xFFFF then -- NB this also returns lone surrogate charac
        return format:format(codepoint)
    elseif codepoint > 0x10FFFF then -- There are no codepoints above this
        return ''
    end
    codepoint = codepoint - 0x10000
    bit32 = require('bit32')
    return (format .. ' ' .. format):format(
        bit32.rshift(codepoint, 10) + 0xD800,
        bit32.band(codepoint, 0x3FF) + 0xDC00)
end

p.fromUTF8 = function(frame)
    local basein = frame.args['basein'] == 'dec' and 10 or 16
    local format = frame.args['base'] == 'dec' and '%d ' or '%02X '
    local bytes = {}
    for byte in mw.text.gsplit(frame.args[1], '%s') do
        table.insert(bytes, tonumber(byte, basein))
    end
    local chars = {mw.ustr.string.codepoint(string.char(unpack(bytes)), 1, -1)}
    return format:rep(#chars):sub(1, -2):format(unpack(chars))
end

return p
```