

# Characters and Strings

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# Strings

# 1. Create string of length

```
character(len=50) :: mystring  
mystring = "short string"
```

## 2. String length

String length, with / without trimming.

Code:

```
character(len=12) :: strvar
!! ...
strvar = "word"
print *,len(strvar),len(trim(strvar))
```

Output:

```
12
4
```

### 3. String concatenation

Code:

```
character(len=10) ::  
    firstname,lastname  
character(len=15) ::  
    shortname,fullname  
!! ...  
firstname = "Victor"; lastname =  
    "Eijkhout"  
shortname = firstname // lastname  
print *, "without trimming: ", shortname  
fullname = trim(firstname) // " " //  
    trim(lastname)  
print *, "with trimming: ", fullname
```

Output:

```
without trimming:  
    Victor    Eijkh  
with trimming:  
    Victor Eijkhout
```

# Character conversion

## 4. Conversion char to ascii

Code:

```
print *, "97 is a:", char(97)
print *, "84 is T:", char(84)
print *, "51 is 3:", char(53)
print *, "08 is VT :", char(11), ". "
```

Output:

```
97 is a:a
84 is T:T
51 is 3:5
08 is VT :
.
```

Note the last one!

## 5. Ascii code of a character

```
character :: char
integer  :: code

char = "x"
code = iachar(char)
print *,char," has code",code
```



# Exercise 1

Write a test to see if a character is lowercase:

Code:

```
print *, "lower t", islower("t")  
print *, "lower T", islower("T")  
print *, "lower 3", islower("3")
```

Output:

```
lower t T  
lower T F  
lower 3 F
```

## String conversion

## 6. Parse date string

Code:

```
character(len=8) :: date
integer :: year,month,day
date = "20221027"
read( date,'( i4,i2,i2 )' ) &
    year,month,day
!! ...
print *, "Date:", date
print '( "Year=",i4,"", mo=",i2,"",
    day=",i2 )', &
    year,month,day
```

Output:

```
missing snippet
../../code/stringf/rw.runout
```

## 7. Date quantities to string

Code:

```
write( longdate,&  
      '( i4,"/",i2,"/",i2 )' &  
      ) year,month,day  
print *, "Long date:",longdate
```

Output:

*Long date:2022/10/27*