Lab 5

Exercise 1

```
def string_to_int(str):
    num = 0
    for i, c in enumerate(reversed(str)):
        num += (ord(c) - ord('0')) * (10 ** i)
    return num
```

Exercise 2

```
def to_lower(str):
    new_str = ""
    for c in str:
        if ord('A') <= ord(c) <= ord('Z'):
            new_str += chr(ord(c) + 32)
        else:
            new_str += c
    return new_str
```

Exercise 3

```
import re

def spain(a):
    return re.findall(r'Spain', a)

def ain(a):
    return re.findall(r'ain\b', a)
```

```
def replace(a):
    return re.sub("rain", "snow", re.sub(r'Spain', 'Italy', a))

def words(a):
    return list(set(re.findall(r'\b\w+\b', a)))
```

Exercise 4

```
BEGIN {
    totalFields = 0
}
{
    totalFields += NF
}

END {
    print totalFields
    print NR
}
```

Exercise 5

```
--regexp-extended 's/([0-9]{4})-([0-9]{2})-([0-9]{2})/\3.\2.\1/
```

Exercise 6

```
--regexp-extended '/[0-9]{3}[02468]/ i even'
```

Exercise 7

```
'
{
split($0, a, "-")
years[a[1]] = years[a[1]] + $2
}
END { for (key in years) print key, years[key] }
'
```

Exercise 8

```
'
{
split($0, a, "-")
if (int(a[1]) % 4 == 0 && (int(a[1]) % 100 != 0 || int(a[1]) % 4
}
'
```

Exercise 9

```
'
BEGIN {
bLine = ""
big = 0
}
{
split($0, a, "-")
if ($2 > big && a[3] > 14 && a[3] < 28)
{
bLine = $0
big = $2
}
}
```

```
END {
print bLine
}
'
```

Exercise 10

```
'
{
split($0, a, "-")
print strftime("%a",mktime(a[1] a[2] a[3] " 00 00 00"))
}
'
```