

Practica N°1

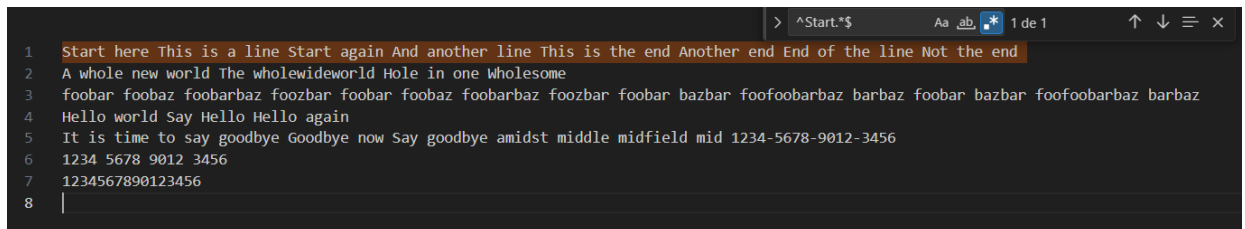
Teoría de autómatas y compiladores

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1. Desarrollar una expresión regular para encontrar todas las líneas que comienzan con la palabra "Start".

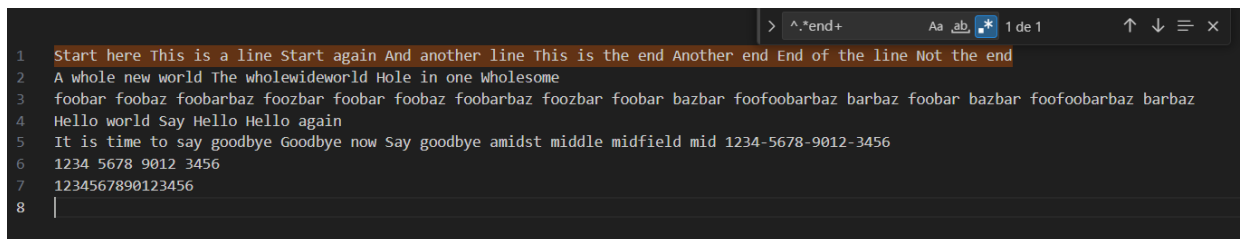
Expresión: `^Start.*$`



```
> ^Start.*$ Aa .ab 1 de 1
1 Start here This is a line Start again And another line This is the end Another end End of the line Not the end
2 A whole new world The wholewideworld Hole in one Wholesome
3 foobar foobaz foobarbaz foobar foobar foobaz foobarbaz foobar foobar bazbar foofoobabaz barbaz foobar bazbar foofoobabaz barbaz
4 Hello world Say Hello Hello again
5 It is time to say goodbye Goodbye now Say goodbye amidst middle midfield mid 1234-5678-9012-3456
6 1234 5678 9012 3456
7 1234567890123456
8 |
```

2. Realizar una expresión regular para encontrar todas las líneas que terminan con la palabra "end".

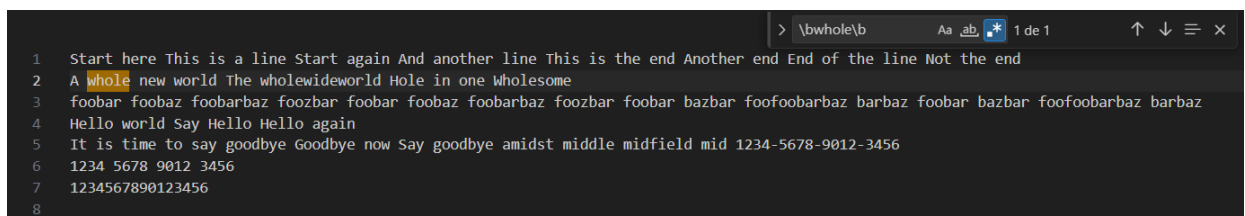
Expresión: `^.*end+`



```
> ^.*end+ Aa .ab 1 de 1
1 Start here This is a line Start again And another line This is the end Another end End of the line Not the end
2 A whole new world The wholewideworld Hole in one Wholesome
3 foobar foobaz foobarbaz foobar foobar foobaz foobarbaz foobar foobar bazbar foofoobabaz barbaz foobar bazbar foofoobabaz barbaz
4 Hello world Say Hello Hello again
5 It is time to say goodbye Goodbye now Say goodbye amidst middle midfield mid 1234-5678-9012-3456
6 1234 5678 9012 3456
7 1234567890123456
8 |
```

3. Realizar una expresión regular para encontrar la palabra " whole" solo cuando es una palabra completa.

Expresión: `\bwhole\b`



```
> \bwhole\b Aa .ab 1 de 1
1 Start here This is a line Start again And another line This is the end Another end End of the line Not the end
2 A whole new world The wholewideworld Hole in one Wholesome
3 foobar foobaz foobarbaz foobar foobar foobaz foobarbaz foobar foobar bazbar foofoobabaz barbaz foobar bazbar foofoobabaz barbaz
4 Hello world Say Hello Hello again
5 It is time to say goodbye Goodbye now Say goodbye amidst middle midfield mid 1234-5678-9012-3456
6 1234 5678 9012 3456
7 1234567890123456
8 |
```

4. Realizar una expresión regular para encontrar la palabra "foo" solo si es seguida por "bar".

Expresión: `foo(?:=bar)`

```
> foo(?:=bar) Aa .ab 1 de 8
1 Start here This is a line Start again And another line This is the end Another end End of the line Not the end
2 A whole new world The wholewideworld Hole in one Wholesome
3 foobar foobaz foobarbaz foobar foobar foobarbaz foobar bazbar foofoobarbaz barbaz foobar bazbar foofoobarbaz barbaz
4 Hello world Say Hello Hello again
5 It is time to say goodbye Goodbye now Say goodbye amidst middle midfield mid 1234-5678-9012-3456
6 1234 5678 9012 3456
7 1234567890123456
8
```

5. Realizar una expresión regular para encontrar la palabra "foo" solo si no es seguida por "bar".

Expresión: `foo(?:!bar)`

```
> foo(?:!bar) Aa .ab 1 de 6
1 Start here This is a line Start again And another line This is the end Another end End of the line Not the end
2 A whole new world The wholewideworld Hole in one Wholesome
3 foobar foobarbaz foobarbaz foobar foobar foobarbaz foobar bazbar foofoobarbaz barbaz foobar bazbar foofoobarbaz barbaz
4 Hello world Say Hello Hello again
5 It is time to say goodbye Goodbye now Say goodbye amidst middle midfield mid 1234-5678-9012-3456
6 1234 5678 9012 3456
7 1234567890123456
8
```

6. Realizar una expresión regular para encontrar la palabra "bar" solo si es precedida por "foo".

Expresión: `(?<=foo)bar`

```
> (?<=foo)bar Aa .ab 1 de 8
1 Start here This is a line Start again And another line This is the end Another end End of the line Not the end
2 A whole new world The wholewideworld Hole in one Wholesome
3 foobar foobaz foobarbaz foobar foobar foobarbaz foobar bazbar foofoobarbaz barbaz foobar bazbar foofoobarbaz barbaz
4 Hello world Say Hello Hello again
5 It is time to say goodbye Goodbye now Say goodbye amidst middle midfield mid 1234-5678-9012-3456
6 1234 5678 9012 3456
7 1234567890123456
```

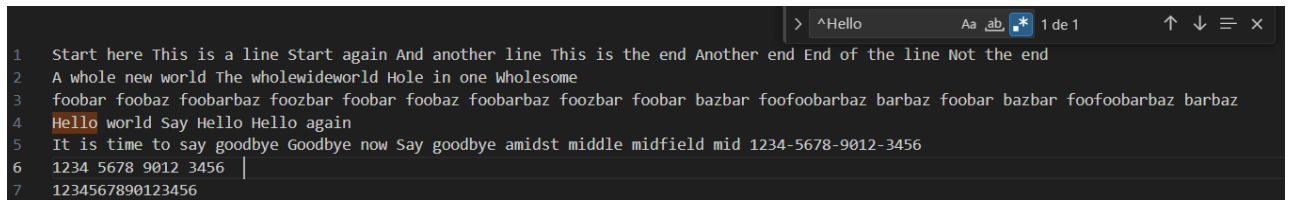
7. Realizar una expresión regular para encontrar la palabra "bar" solo si no es precedida por "foo".

Expresión: `(?<!foo)bar`

```
> (?<!foo)bar Aa .ab 1 de 6
1 Start here This is a line Start again And another line This is the end Another end End of the line Not the end
2 A whole new world The wholewideworld Hole in one Wholesome
3 foobar foobaz foobarbaz foobar foobar foobarbaz foobar bazbar foofoobarbaz barbaz foobar bazbar foofoobarbaz barbaz
4 Hello world Say Hello Hello again
5 It is time to say goodbye Goodbye now Say goodbye amidst middle midfield mid 1234-5678-9012-3456
6 1234 5678 9012 3456
7 1234567890123456
```

8. Realizar una expresión regular para encontrar la palabra "Hello" solo si está al inicio del texto completo.

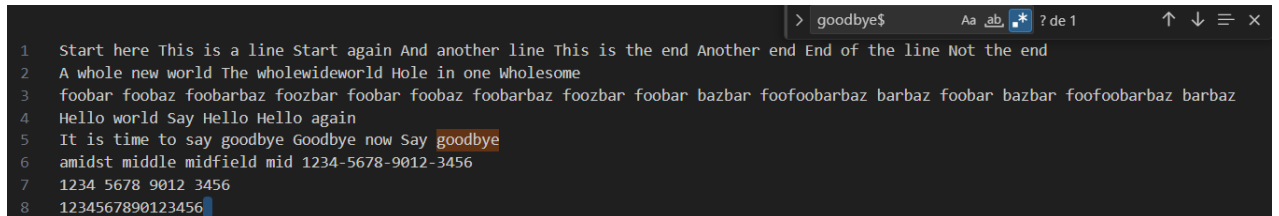
Expresión: *^Hello*



A screenshot of a text editor window. The search bar at the top right contains the regex `> ^Hello`. The text area shows a multi-line document with various words. The word "Hello" on the fourth line is highlighted in orange, indicating a successful match for the search pattern.

9. Realizar una expresión regular para encontrar la palabra "goodbye" solo si está al final del texto completo.

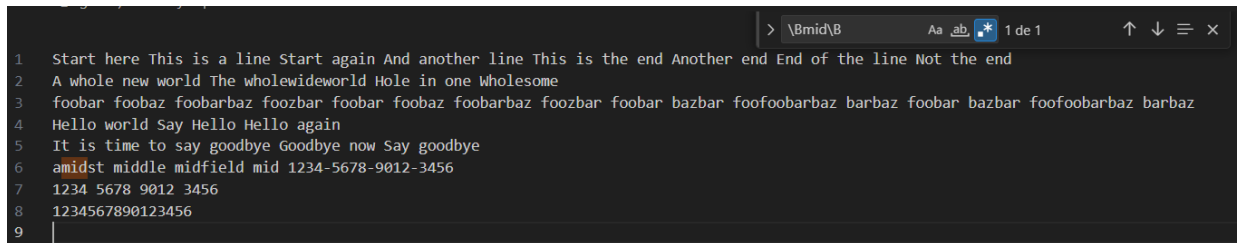
Expresión: *goodbye\$*



A screenshot of a text editor window. The search bar at the top right contains the regex `> goodbye$`. The text area shows the same multi-line document. The word "goodbye" on the fifth line is highlighted in orange, indicating a successful match for the search pattern.

10. Realizar una expresión regular para encontrar la secuencia "mid" solo si no está en un borde de palabra.

Expresión: *\Bmid\B*



A screenshot of a text editor window. The search bar at the top right contains the regex `> \Bmid\B`. The text area shows the same multi-line document. The word "amidst" on the sixth line is highlighted in orange, indicating a successful match for the search pattern.

EJERCICIOS DE APRENDIZAJE EXTRA

1. Realizar una expresión regular para validar números de tarjeta de crédito que cumplan con las siguientes condiciones:

- Los números deben estar agrupados en bloques de 4 dígitos.
- Cada bloque debe estar separado por un espacio o un guión.
- Debe haber un total de 4 bloques (16 dígitos en total).

Expresión: `[\d]{4}[-/][\d]{4}[-/][\d]{4}[-/][\d]{4}`

```
> {4}[-/ ][\d]{4}[-/ ][\d]{4}[-/ ][\d]{4} Aa ab 2 de 2
1 Start here This is a line Start again And another line This is the end Another end End of the line Not the end
2 A whole new world The wholewideworld Hole in one Wholesome
3 foobar foobaz foobarbaz foobar foobar foobaz foobarbaz foobar foobar bazbar foofoobarbaz barbaz foobar bazbar foofoobarbaz barbaz
4 Hello world Say Hello Hello again
5 It is time to say goodbye Goodbye now Say goodbye
6 amidst middle midfield mid 1234-5678-9012-3456
7 1234 5678 9012 3456
8 1234567890123456
```

2. Realizar una expresión regular para encontrar y extraer texto que esté entre comillas dobles, pero que no esté precedido por una barra invertida (\).

Expresión: `(?<!\)".*?(?<!\)"`

```
> (?<!\)".*?(?<!\)" Aa ab 1 de 1
1 Start here This is a line Start again And another line This is the end Another end End of the line Not the end
2 A whole new world The wholewideworld Hole in one Wholesome
3 foobar foobaz foobarbaz foobar foobar foobaz foobarbaz foobar foobar bazbar foofoobarbaz barbaz foobar bazbar foofoobarbaz barbaz
4 Hello world Say Hello Hello again
5 It is time to say goodbye Goodbye now Say goodbye
6 amidst middle midfield mid 1234-5678-9012-3456
7 1234 5678 9012 3456
8 1234567890123456
9 "JhoelEstebanCQ\"
10 "212111@unamba.edu.pe"
```

3. Realizar una expresión regular para encontrar fechas en formato DD/MM/YYYY donde el día esté entre 01 y 31, el mes entre 01 y 12 y el año entre 1900 y 2099.

Expresión: `\b(0[1-9]|[12]\d|3[01])/([01-9]|1[0-2])/((19|20)\d{2})\b`

```
> \b(0[1-9]|[12]\d|3[01])/([01-9]|1[0-2])/((19|20)\d{2})\b Aa ab 2 de 2
1 Start here This is a line Start again And another line This is the end Another end End of the line Not the end
2 A whole new world The wholewideworld Hole in one Wholesome
3 foobar foobaz foobarbaz foobar foobar foobaz foobarbaz foobar foobar bazbar foofoobarbaz barbaz foobar bazbar foofoobarbaz barbaz
4 Hello world Say Hello Hello again
5 It is time to say goodbye Goodbye now Say goodbye
6 amidst middle midfield mid 1234-5678-9012-3456
7 1234 5678 9012 3456
8 1234567890123456
9 "JhoelEstebanCQ\"
10 "212111@unamba.edu.pe"
11 14/06/2024 14/06/2024
12 14-06-2024
```