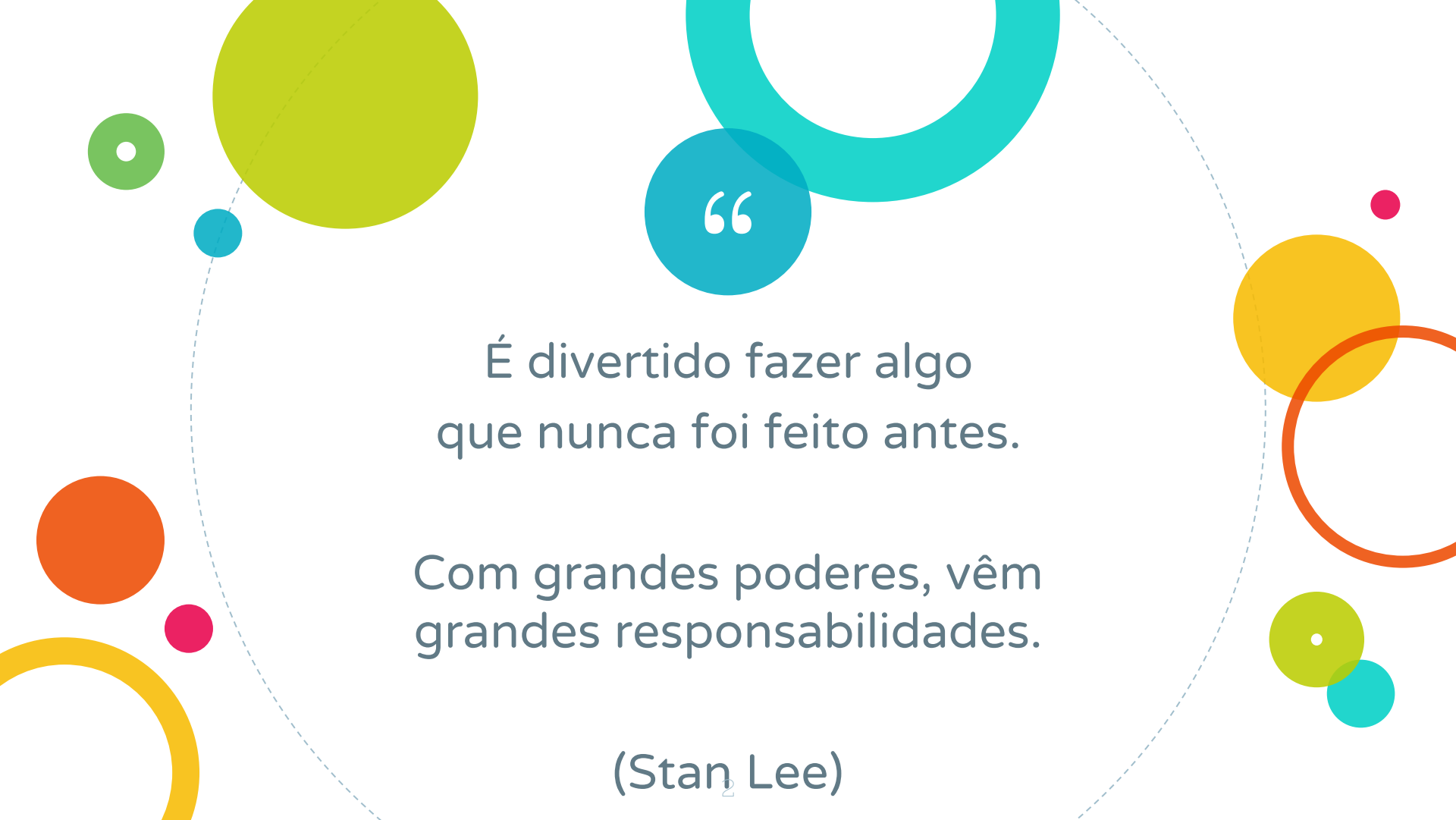


The background is white with several colorful geometric shapes. In the top left, there is a large teal circle with a white center, a smaller solid teal circle, and a dashed teal circle. In the top right, there is a large lime green circle, a smaller solid green circle, and a dashed green circle. In the bottom left, there is a large green circle with a white center, a smaller solid yellow circle, and a dashed yellow circle. In the bottom right, there is a large yellow circle, a smaller solid orange circle, and a dashed orange circle. A large, faint dashed blue circle spans across the middle of the page.

Linguagem C

Profª Lucília Ribeiro

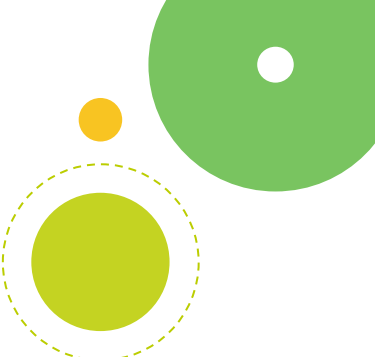
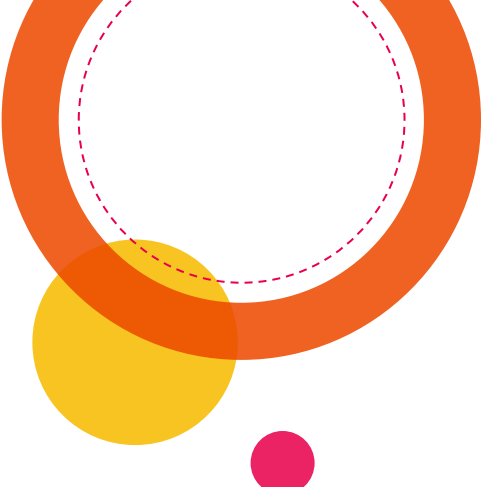
The background is white with a large, faint, light-blue dashed circle. Scattered around this circle are various colored shapes: a large yellow-green circle at the top left, a small green circle with a white dot, a small blue circle, a large orange circle at the bottom left, a small pink circle, a large yellow circle at the bottom left, a large teal ring at the top right, a small blue circle containing a white quote mark, a large yellow circle at the top right, a large orange ring, a small pink circle, a small yellow-green circle with a white dot, and a small teal circle.

“

É divertido fazer algo
que nunca foi feito antes.

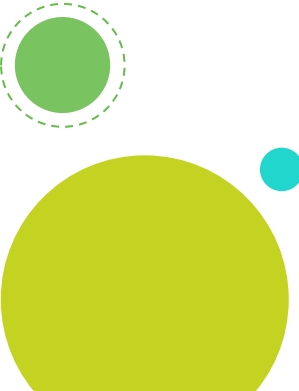
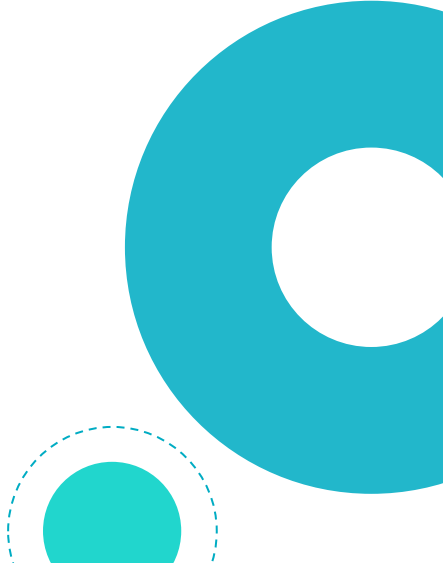
Com grandes poderes, vêm
grandes responsabilidades.

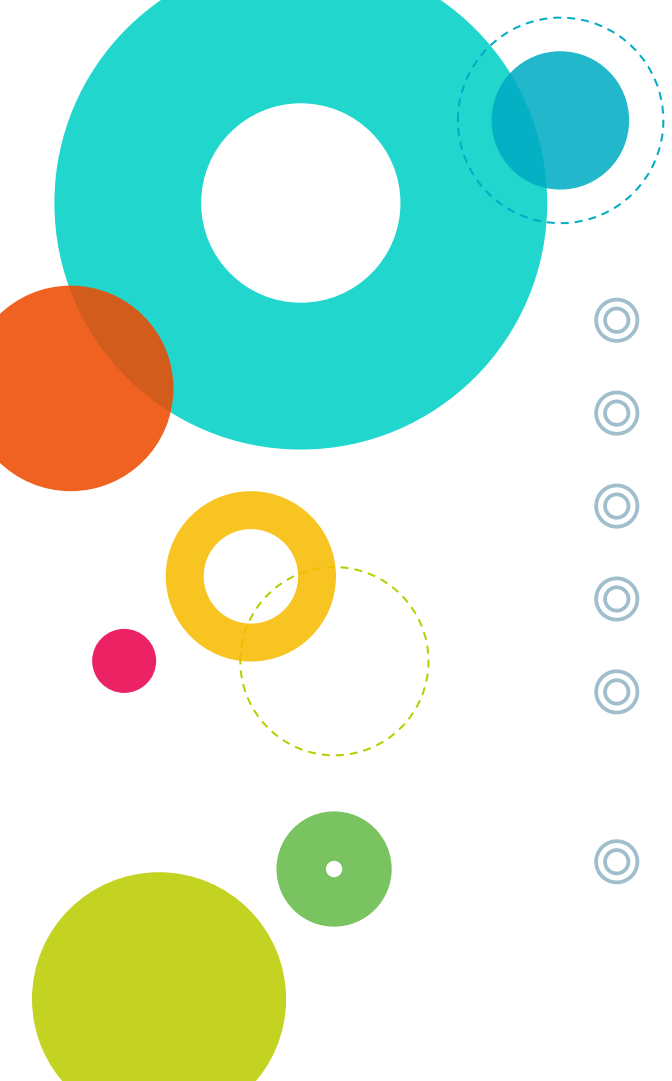
(Stan Lee)



1

História

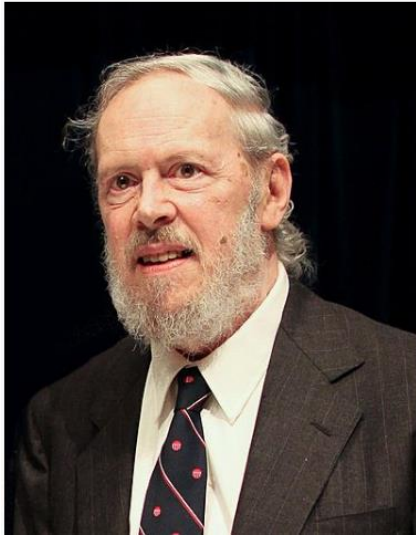




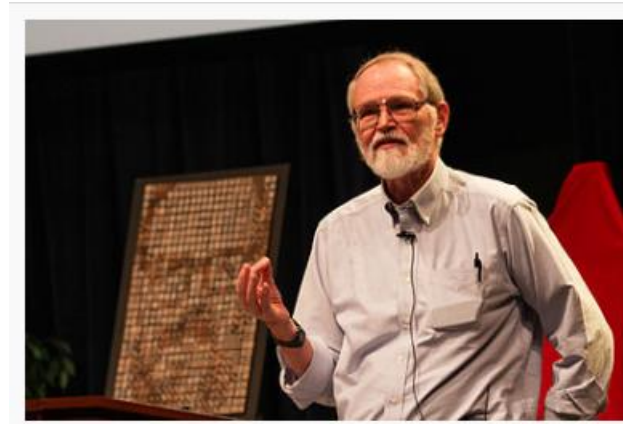
A long time ago....

- ◎ Criada em 1972
- ◎ Bell Telephone Laboratories
- ◎ Dennis Ritchie
- ◎ Unix
- ◎ “The C Programming Language” – Kernighan & Ritchie
- ◎ 1983 – ANSI (American National Standards Institute)

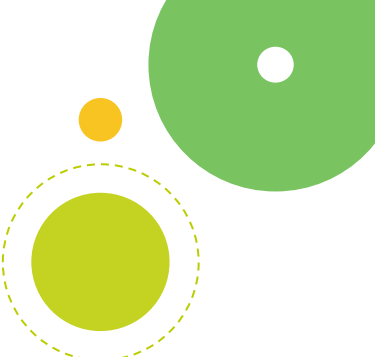
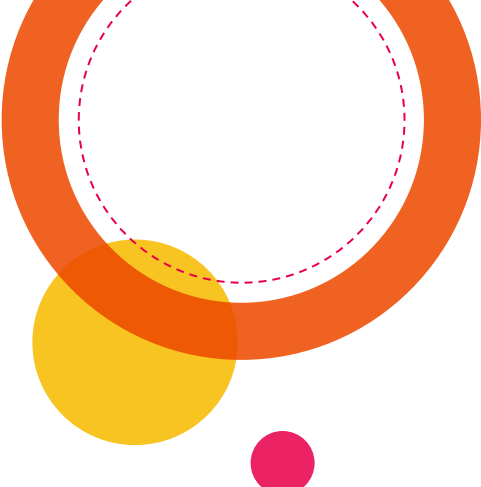
Linha do Tempo



© Dennis Ritchie
(1941 – 2011 (70 anos))

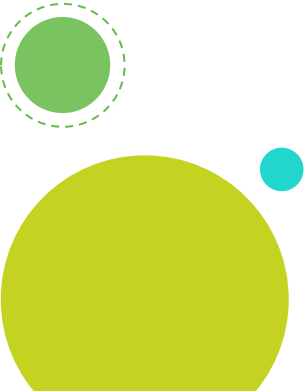


© Brian Kernighan (1942 (81 anos))



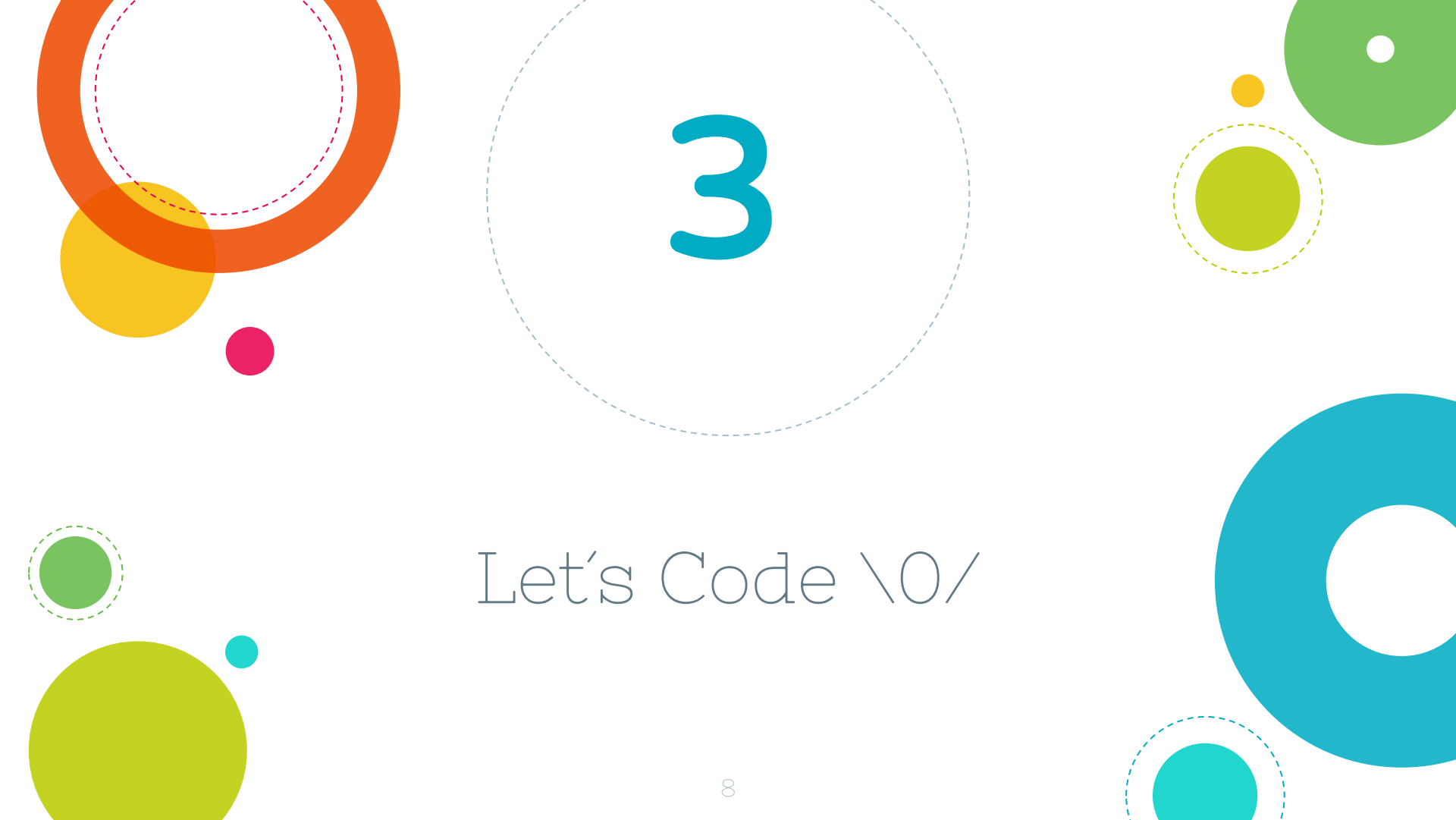
2

Características



Vantagens

- ⦿ Linguagem de Propósito Geral (*general purpose*)
- ⦿ Rapidez
- ⦿ Simples
- ⦿ Portátil
- ⦿ Popular
- ⦿ Modular
- ⦿ Alto Nível
- ⦿ Bibliotecas poderosas
- ⦿ Macros
- ⦿ Foco (forma do código)
- ⦿ Evolução

The background is white with several decorative elements: a large orange circle with a dashed red outline in the top left; a yellow circle overlapping it; a small pink circle below the yellow one; a green circle with a dashed green outline in the bottom left; a large green circle with a white dot in the top right; a small orange circle above a lime green circle with a dashed yellow outline in the top right; a large blue circle with a white center in the bottom right; and a small cyan circle with a dashed blue outline in the bottom right.

3

Let's Code \0/

Código Fonte

- Utilize qualquer editor de texto. De preferência um que tenha *syntax highlighting* (Notepad++)

```
1  #include <stdio.h>
2
3  int main() {
4      /* meu segundo programa
5      data: 25/08/2023 */
6      printf("\ntUDO QUE é sólido se desmancha no ar\n");
7      printf("Encontre o erro\n");
8      return 0;
9  }
```

- Salve o arquivo com esse nome: **Ex2.c**
- Obs1: C é “Case sensitive”, ou seja: diferencia letras maiúsculas de minúsculas.

Prompt de Comando

- ◎ É um interpretador de linha de comando
 - ◎ Windows: **CMD** (digite na barra de pesquisa)
 - ◎ Linux: **Monitor**: Está dentro das ferramentas de desenvolvimento
- ◎ Prompt (aguardando comandos)
 - ◎ Windows: caractere “Sinal de Maior”: **>**
 - ◎ Linux: caractere “Cifrão”: **\$**

```
CA Prompt de Comando
Microsoft Windows [versão 10.0.19042.1165]
(c) Microsoft Corporation. Todos os direitos reservados.
C:\Users\lucil>
```

Comandos do Prompt

- ⦿ Limpa a tela: **cls** (Windows) ou **clear** (Linux)
- ⦿ Mostra o conteúdo da pasta: **dir** (Windows) ou **ls** (Linux)
- ⦿ Percorrer os diretórios: **CD** caminho

```
Prompt de Comando

C:\Users\lucil\Desktop>cd codigos
C:\Users\lucil\Desktop\codigos>cd c
C:\Users\lucil\Desktop\codigos\C>dir
  O volume na unidade C é OS
  O Número de Série do Volume é B2B8-48DD

  Pasta de C:\Users\lucil\Desktop\codigos\C

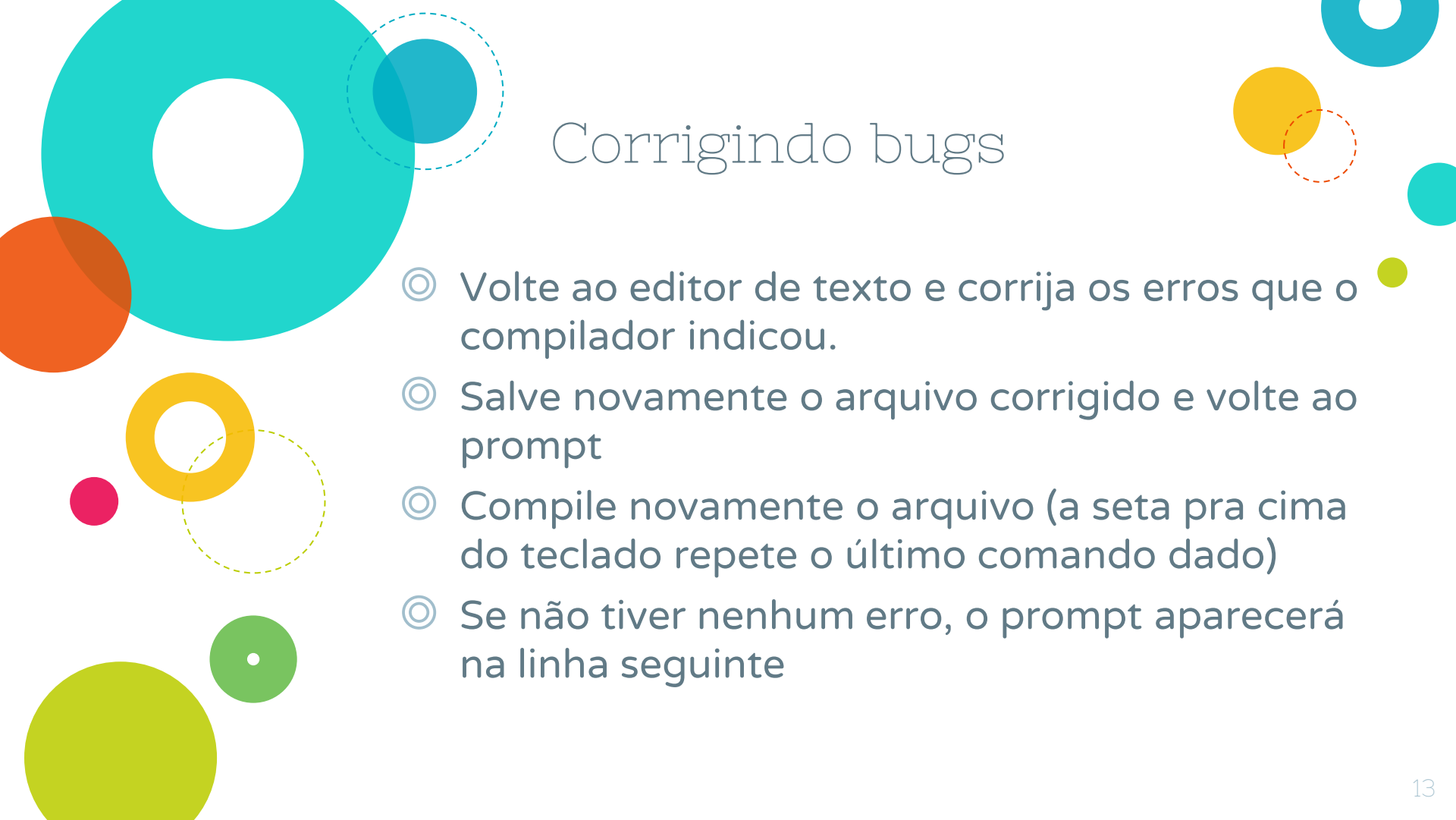
25/08/2023  12:19    <DIR>          .
22/08/2023  15:24    <DIR>          ..
23/08/2023  23:23                249 Bee1011.c
23/08/2023  23:25             400.936 Bee1011.exe
22/08/2023  16:11                192 Ex01.c
25/08/2023  12:14             251.566 Ex01.exe
25/08/2023  12:18                192 Ex1.c
25/08/2023  12:19             250.838 Ex1.exe
22/08/2023  15:31    <DIR>          0ld
25/08/2023  09:32                144 Virus.c
25/08/2023  09:33             251.350 Virus.exe
                        8 arquivo(s)      1.155.467 bytes
                        3 pasta(s)    27.994.882.048 bytes disponíveis

C:\Users\lucil\Desktop\codigos\C>cd..
C:\Users\lucil\Desktop\codigos>
```

Compilação

- © Um dos compiladores da linguagem C é o **gcc**
- © Chame o compilador e digite o nome do arquivo a ser compilado, seguido de um sinal de (menos) e da letra o (de objeto), em seguida o nome que se quer dar ao programa sem a extensão **gcc Ex2.c -o Ex2**
- © Se o código fonte tiver algum erro, o compilador apresentará uma mensagem, indicando a linha e o erro.

```
C:\Users\lucil\Desktop\codigos\C>gcc Ex2.c -o Ex2
Ex2.c: In function 'main':
Ex2.c:7:32: error: expected ';' before 'return'
  7 |         printf("Encontre o erro\n")
    |                                ^
    |                                ;
  8 |         return 0;
    |         ~~~~~~
C:\Users\lucil\Desktop\codigos\C>
```



Corrigindo bugs

- ⦿ Volte ao editor de texto e corrija os erros que o compilador indicou.
- ⦿ Salve novamente o arquivo corrigido e volte ao prompt
- ⦿ Compile novamente o arquivo (a seta pra cima do teclado repete o último comando dado)
- ⦿ Se não tiver nenhum erro, o prompt aparecerá na linha seguinte

Executando o código

- © Para executar o código, digite o nome do programa **Ex2**

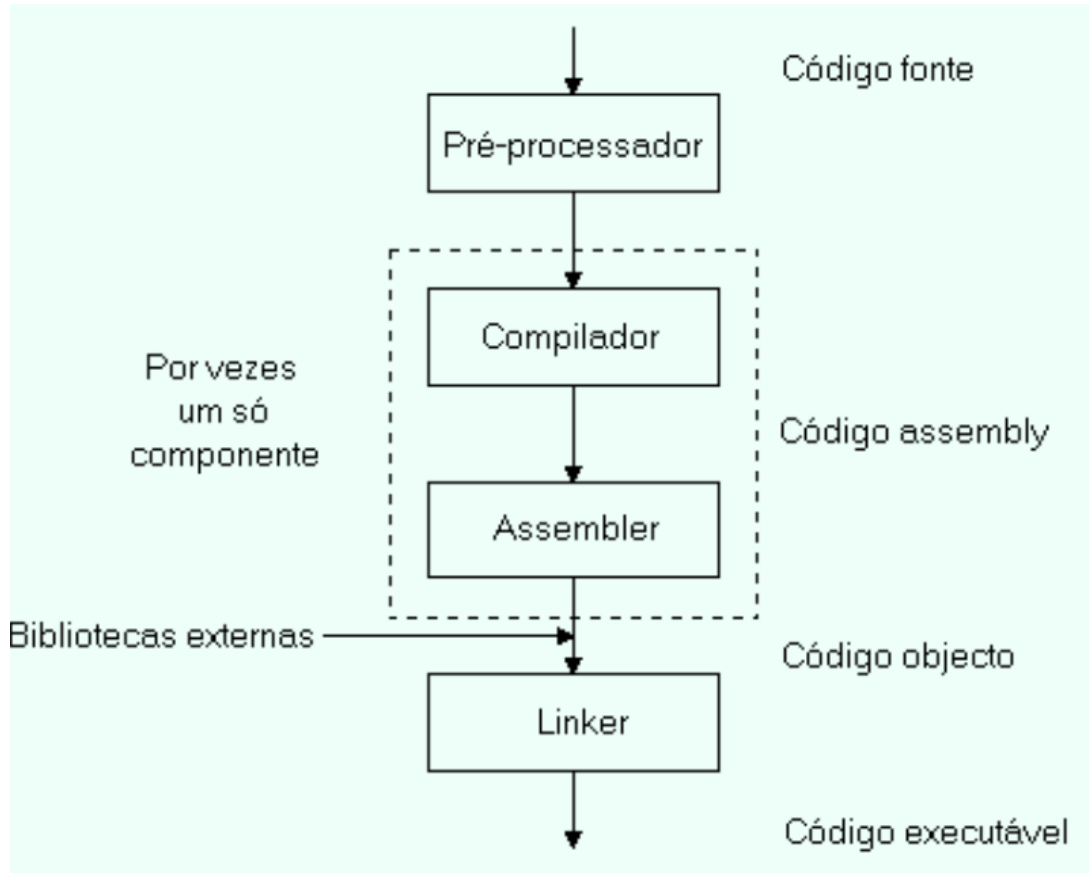
```
C:\Users\lucil\Desktop\codigos\C>gcc Ex2.c -o Ex2
```

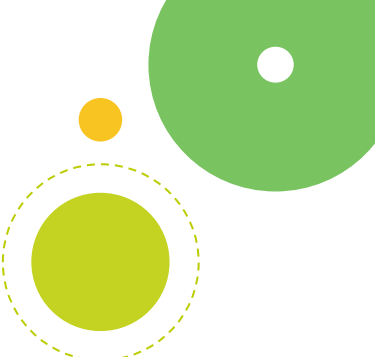
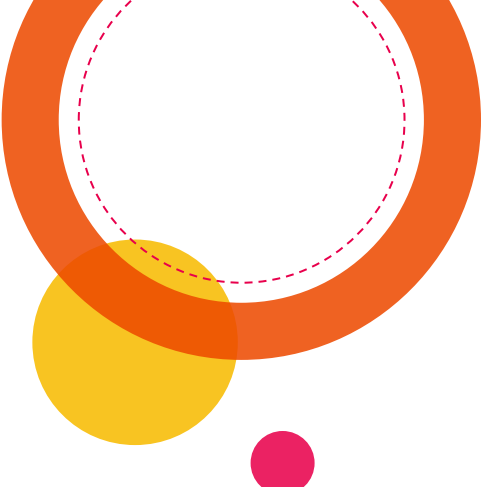
```
C:\Users\lucil\Desktop\codigos\C>Ex2
```

```
tUDO QUE e solido se desmancha no ar  
Encontre o erro
```

```
C:\Users\lucil\Desktop\codigos\C>
```

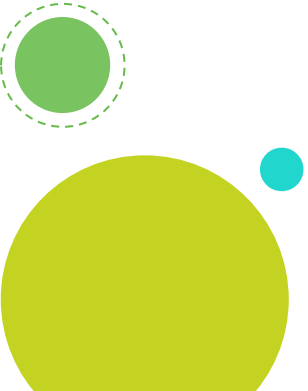
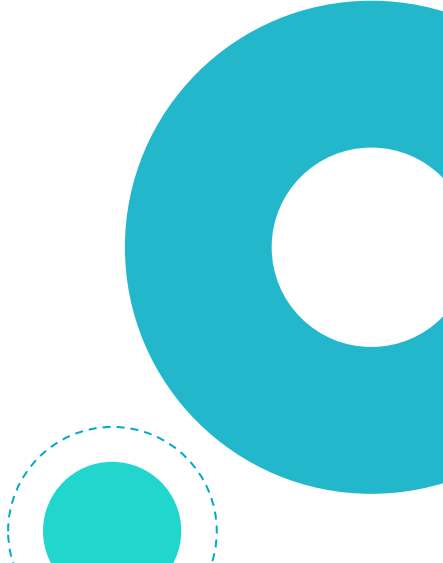
Processo de compilação





4

Exercícios



Exercício 3

Considerando que o comando para saída de dados é **printf("saída de dados")** e que tudo que estiver dentro das aspas será reproduzido na tela, implemente um código que reproduza a saída de dados abaixo, colocando seu nome no lugar do meu.

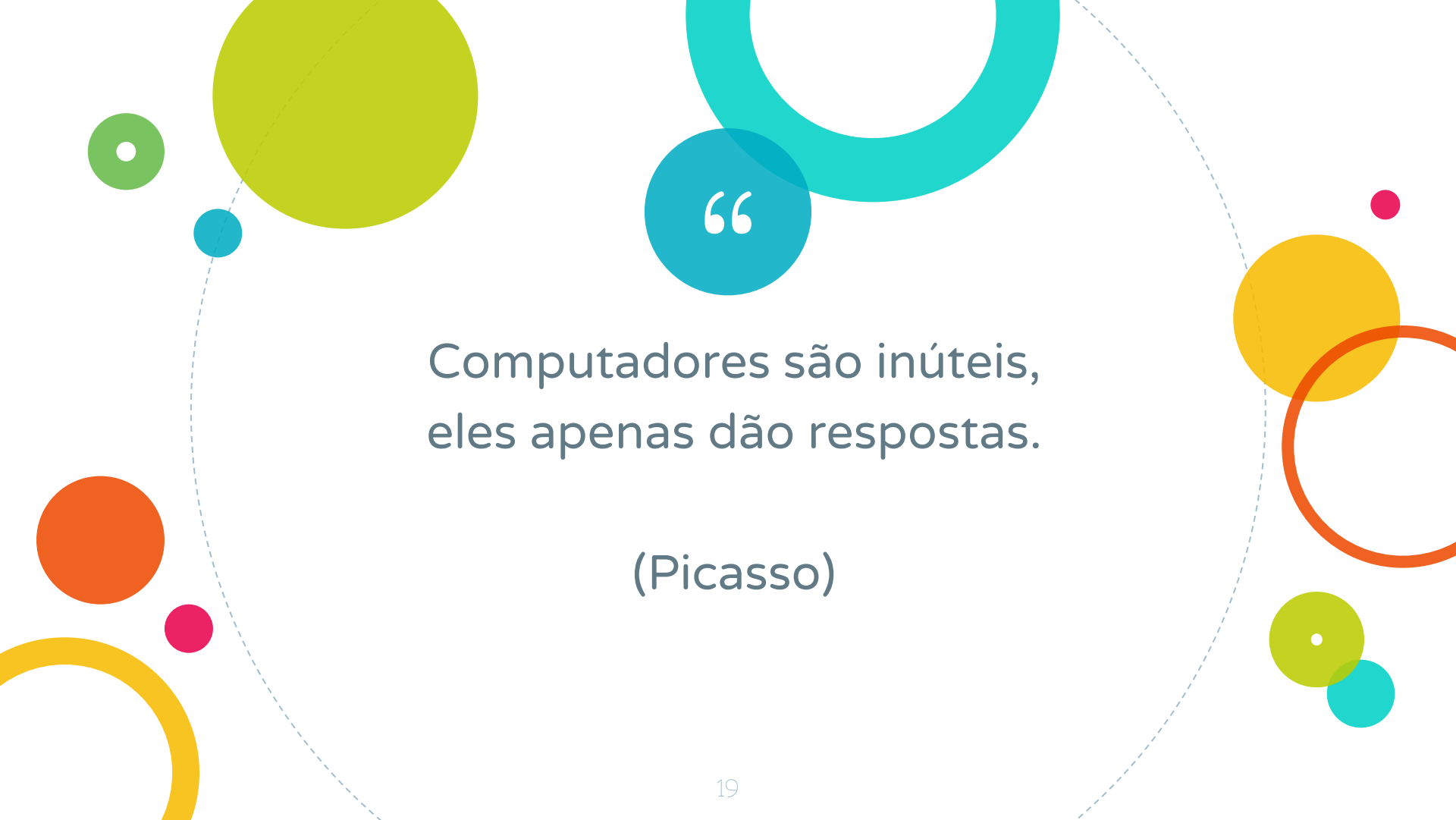
```
C:\Users\lucil\Desktop\codigos\C>Ex3
```

```
  **
 ****
*****
*****
*****
*****
*****
*****
*****
*****
****
**      Lucilia
```

Exercício 4

- © Faça um programa que imprima um menu semelhante a este:

```
***** S T A R P L A Y *****  
  1 - Iniciar Jogo  
  2 - Restaurar ultimo Jogo  
  3 - Configurar Jogo  
  0 - Sair  
*****  
OPCAO ->
```

A decorative background featuring a large, light blue dashed circle. Various colored circles and arcs are scattered around it: a large yellow circle at the top left, a small green circle with a white dot, a small blue circle, a large orange circle at the bottom left, a small pink circle, a large yellow arc at the bottom left, a large cyan arc at the top right, a medium blue circle containing the quote mark, a large yellow circle at the middle right, a large orange arc at the middle right, a small pink circle at the top right, a small green circle with a white dot at the bottom right, and a small cyan circle at the bottom right.

“

Computadores são inúteis,
eles apenas dão respostas.

(Picasso)

Obrigada!



Perguntas?

professora@lucilia.com.br