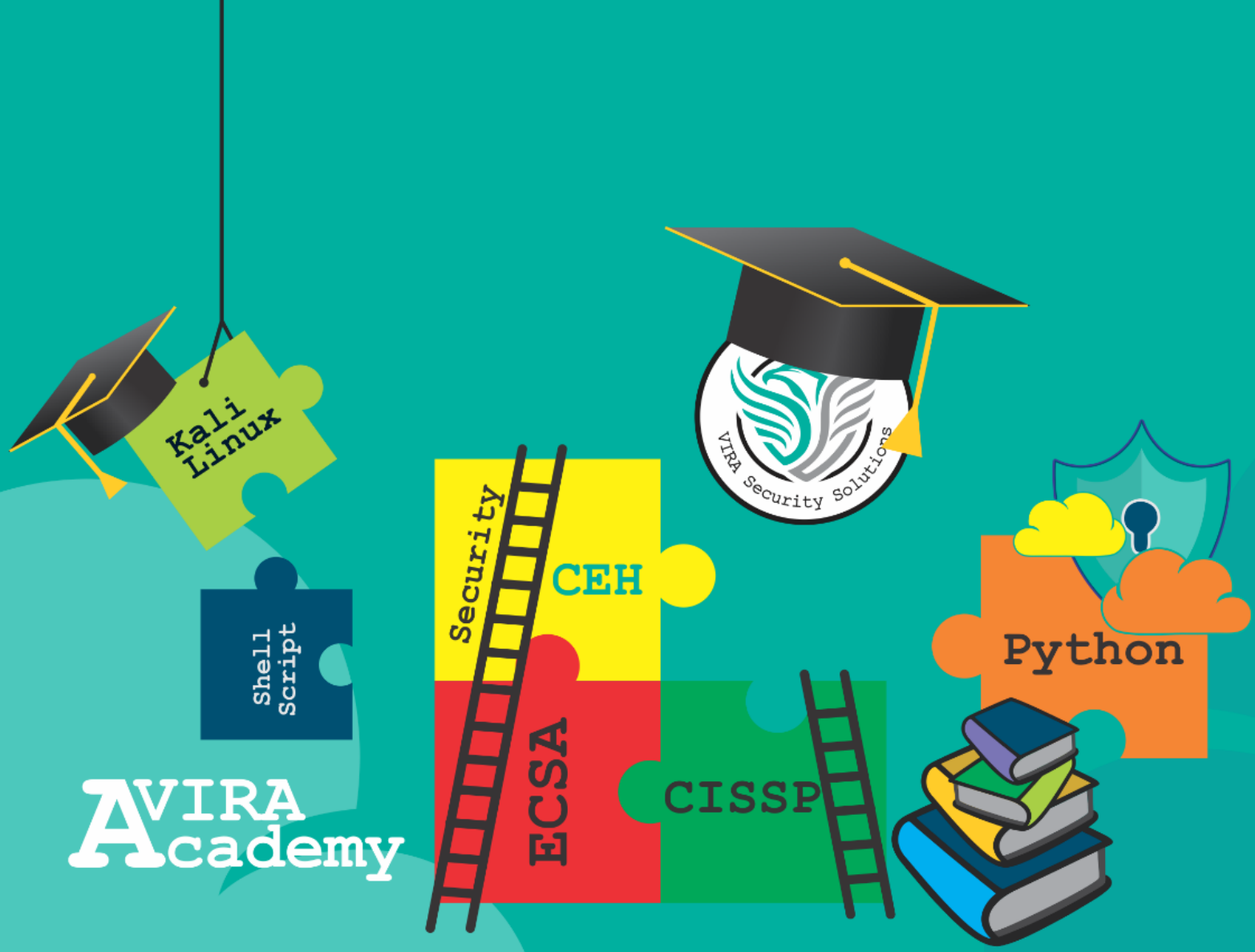

VIRA
Security
Solutions


راهکارهای امن ویرا
شماره ثبت: ۵۴۰۱۳۹
VIRA Security Solutions


Kali Linux
Shell Script
VIRA Security Solutions
Security
CEH
ECSA
CISSP
Python
AVIRA Academy

Linux

Part6

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SED

Command in Linux

SED

Introduction

SED is used for finding, filtering, text substitution, replacement and text manipulations like insertion, deletion search etc. It's a one of the powerful utility offered by Linux/Unix systems. We can use sed with regular expressions. I hope atleast you have the basic knowledge about Linux regular expressions.

It provides Non-interactive editing of text files thats why it's used to automate editing and has two buffers – **pattern buffer** and **hold buffer**. *Sed* use *Patter buffer* when it read files, line by line and that currently read line is inserted into pattern buffer whereas *hold buffer* is a long-term storage, it catch the information, store it and reuse it when it is needed. Initially, both are empty. SED command is used for performing different operation without even opening the file.

SED

sed general syntax

SED is a powerful text stream editor. Can do insertion, deletion, search and replace(substitution).
SED command in unix supports regular expression which allows it perform complex pattern matching.

sed OPTIONS… [SCRIPT] [INPUTFILE…]

SED

Sample.txt

life isn't meant to be easy, life is meant to be lived.
Try to learn & understand something new everyday in life.
Respect everyone & most important love everyone.
Don’t hesitate to ask for love & don’t hesitate to show love too.
Life is too short to be shy.
In life experience will help you differentiating right from wrong.

SED

Insert one blank line after each line

```
sed G sample.txt
```

To insert two blank lines

```
sed 'G;G' sample.txt
```

Delete blank lines and insert one blank line after each line

```
sed '/^$/d;G' sample.txt
```

Insert a black line above every line which matches “love”

```
sed '/love/{x;p;x;}' sample.txt
```

Insert a blank line below every line which matches “love”

```
sed '/love/G' sample.txt
```

Insert 5 spaces to the left of every lines

```
sed 's/^/     /' a.txt
```

SED

Numbering lines

Number each line of a file (left alignment). **=** is used to number the line. \t is used for tab between number and sentence

```
sed =  a.txt  |  sed 'N;s/\n/\t/'
```

Number each line of a file (number on left, right-aligned). This command is similar to `cat -n filename`.

```
sed = a.txt  |  sed 'N; s/^/     /; s/ *\(.\{4,\}\)\n/\1  /'
```

Number each line of file, only if line is not blank

```
sed '/./=' a.txt  |  sed '/./N; s/\n/ /'
```

SED

Deleting lines

Delete a particular line
Syntax:

sed ‘nd’ filename

sed '5d' sample.txt

Delete the last line
Syntax:

sed ‘$d’ filename

Delete line from range x to y
Syntax:

sed ‘x,yd’ filename
sed '3,5d' sample.txt

Delete from nth to last line
Syntax:

sed ‘nth,$d’ filename
sed '2,$d' sample.txt

SED

Deleting lines

Delete the patter matching line –
Syntax:

sed ‘/pattern/d’ filename
sed '/life/d' sample.txt

Delete lines starting from nth line and every 2nd line from there –
Syntax:

sed ‘n~2d’ filename
sed '3~2d' a.txt

Delete the lines which matches the pattern and 2 lines after to that –
Syntax:

sed ‘/pattern/,+2d’ filename
sed '/easy/,+2d' a.txt

SED

Deleting lines

Delete the patter matching line –
Syntax:

sed ‘/pattern/d’ filename
sed '/life/d' sample.txt

Delete lines starting from nth line and every 2nd line from there –
Syntax:

sed ‘n~2d’ filename
sed '3~2d' sample.txt

Delete the lines which matches the pattern and 2 lines after to that –
Syntax:

sed ‘/pattern/,+2d’ filename
sed '/easy/,+2d' sample.txt

SED

Deleting lines

Delete blank Lines

```
sed '/^$/d' sample.txt
```

Delete empty lines or those begins with “#” –

```
sed -i '/^#/d;/^$/d' sample.txt
```

SED

View/Print the files

If we want to view content of file, then we use cat command and if we want to view the bottom and the top content of any file, we use tools such as head and tail. But what if we need to view a particular section in the middle of any file? Here we'll discuss, how to use SED command to view a section of any file.

Viewing a file from x to y range –
Syntax:

```
sed -n 'x,yp' filename
sed -n '2,5p' sample.txt
```

View the entire file except the given range –
Syntax:

```
sed 'x,yd' filename
sed '2,4d' sample.txt
```

SED

View/Print the files

Print nth line of the file –
Syntax:

```
sed -n ‘address’p filename
sed -n '4'p sample.txt
```

Print lines from xth line to yth line.
Syntax:

```
sed -n ‘x,y’p filename
sed -n '4,6'p sample.txt
```

Print only the last line –
Syntax:

```
sed -n ‘$’p filename
```

SED

View/Print the files ***Pattern Printing***

Print from nth line to end of file –
Syntax:

sed -n ‘n,$p’ filename
sed -n '3,$'p sample.txt

Print the line only which matches the pattern –
Syntax:

sed -n /pattern/p filename
sed -n /every/p sample.txt

Print lines which matches the pattern i.e from input to xth line.
Syntax:

sed -n ‘/pattern/,xp’ filename
sed -n '/everyone/,5p' sample.txt

SED

View/Print the files

Following prints lines which matches the pattern, 3rd line matches the pattern "everyone", so it prints from 3rd line to 5th line.

Use $ in place of 5, if want to print the file till end.

Prints lines from the xth line of the input, up-to the line which matches the pattern. If the pattern doesn't found then it prints up-to end of the file.

Syntax:

sed -n 'x,/pattern/p' filename

Example :

sed -n '1,/everyone/p' sample.txt

SED

View/Print the files

Following prints lines which matches the pattern, 3rd line matches the pattern "everyone", so it prints from 3rd line to 5th line.

Use $ in place of 5, if want to print the file till end.

Prints lines from the xth line of the input, up-to the line which matches the pattern. If the pattern doesn't found then it prints up-to end of the file.

Syntax:

sed -n 'x,/pattern/p' filename

Example:

sed -n '1,/everyone/p' sample.txt

SED

View/Print the files

Print the lines which matches the pattern up-to the next xth lines –
Syntax:

sed -n ‘/pattern/,+xp’ filename

Example :

sed -n '/learn/,+2p' sample.txt

SED

Replacement with the sed command

Change the first occurrence of the pattern

```
sed 's/life/leaves/' a.txt
```

Replacing the nth occurrence of a pattern in a line

Syntax:

```
sed ‘s/old_pattern/new_pattern/n’ filename
```

Example :

```
sed 's/to/two/2' sample.txt
```

We wrote “2” because we replaces the second occurrence. Likewise you can use 3, 4 etc according to need.

SED

Replacement with the sed command

Replacing all the occurrence of the pattern in a line.

sed 's/life/learn/g' a.txt

Replace pattern from nth occurrence to all occurrences in a line.

Syntax:

sed ‘s/old_pattern/new_pattern/ng’ filename

Example :

sed 's/to/TWO/2g' sample.txt

Note – This sed command replaces the second, third, etc occurrences of pattern “to” with “TWO” in a line.

SED

Replacement with the sed command

If you wish to print only the replaced lines, then use “-n” option along with “/p” print flag to display only the replaced lines:

```
sed -n 's/to/TWO/p' sample.txt
```

And if you wish to print the replaced lines twice, then only use “/p” print flag without “-n” option:

```
sed 's/to/TWO/p' sample.txt
```

SED

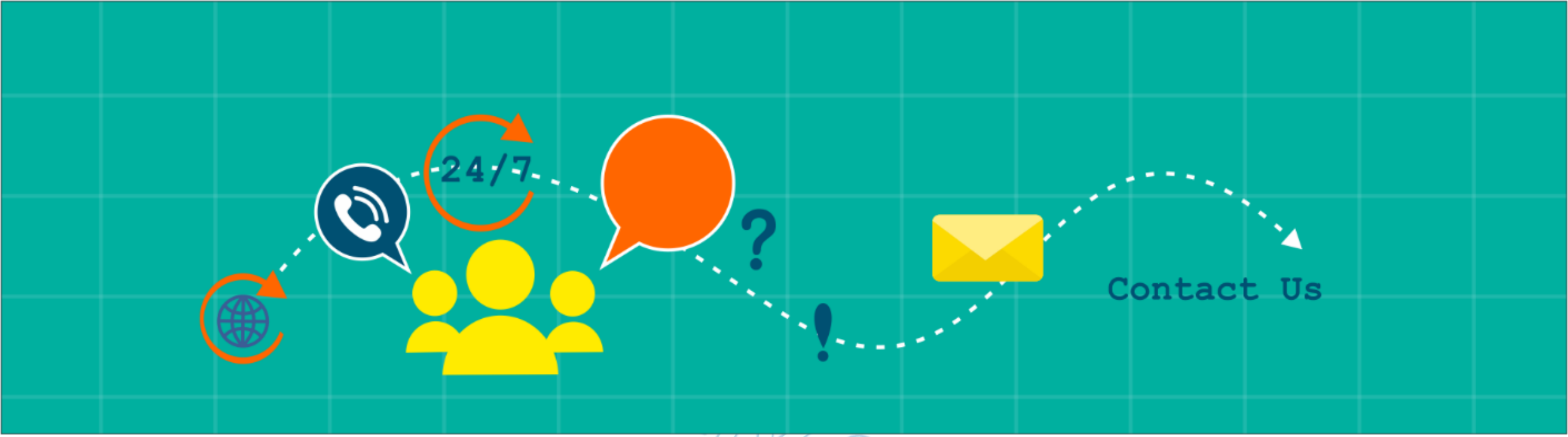
Replacement with the sed command

Replacing pattern on a specific line number. Here, “m” is the line number.
Syntax: sed ‘m s/old_pattern/new_pattern/’ filename
Example :

```
sed '3 s/every/each/' sample.txt
```

If you wish to print only the replaced lines –

```
sed -n '3 s/every/each/p' sample.txt
```



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طبقه چهارم، واحد ۲۰

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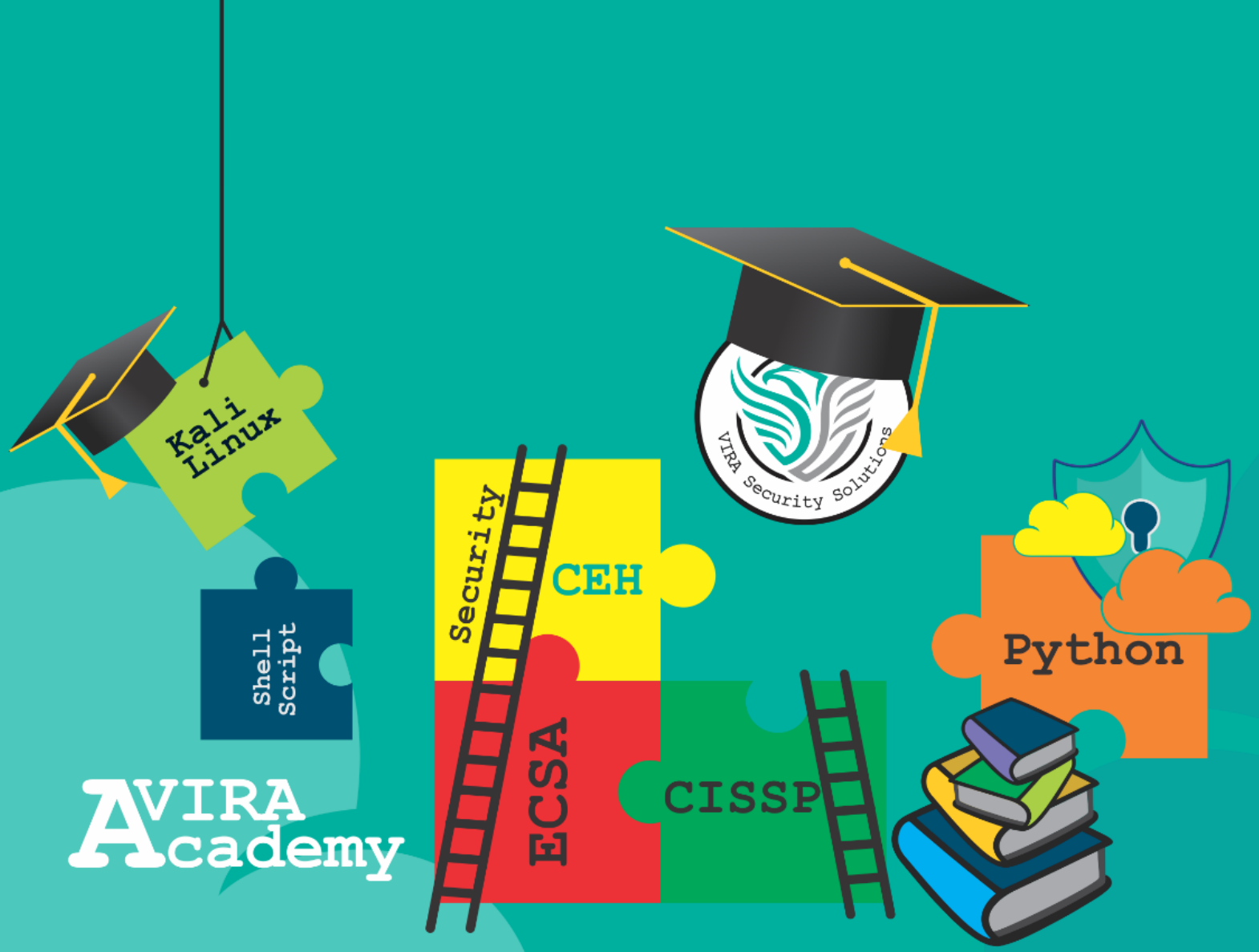
شماره تماس: ۰۹۱۲۵۷۹۲۶۴۱-۰۲۱۲۲۹۸۱۰۲۷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