

# CSE2031 Software Tools - Review

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## Space allocated by definition

- `char* x = "lion"`
- `char* y[] = {"lion", "cat"}`
- `char* z[10]={"lion", "cat"}`

## How-To

- Declare pointer to ...
- Read declarations to get a type or value

- static
- extern

## What will be printed?

```
1  int rec(int x){  
2      static int c=10;  
3      c--;  
4      if(x<c)  
5          rec(x+1);  
6      else  
7          return c;  
8  }  
9  
10 int main(){  
11     int x=1;  
12     printf("%d\n",rec(x));  
13 }
```

## Declarations

- Simple pointers (`char*`, `int*`)
- Pointers to structures and arrays (`char* x[] []`, `struct x y*`)
- Pointers to pointers to ...

- strcmp
- printf
- scanf
- ...



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# Basic info about UNIX

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- Process
- PID
- child process and parent process (fork function)
- Filter

# Special characters and variables

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- home
- root
- current dir
- parent dir
- PATH
- /dev/null

## Filters

- `grep !!!`
- `cut !!!`
- `wc`

## Other

- `ls`
- `more`
- `less`
- `cp`
- `mv`

Combine different commands to achieve a goal. For example find all files in your home directory that starts with 'A' and ends with '.' followed by three lower-case letters. Or count such files

# Regular expressions

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- any string that starts with any char other than lower-case letter
- any string that starts with 'X' and ends with two numbers
- any string that contains three consecutive numbers or exactly one '/'

## Simple script in AWK

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# Basic information about testing

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- glass-box test
- black-box test
- code coverage
- assertions
- ...