

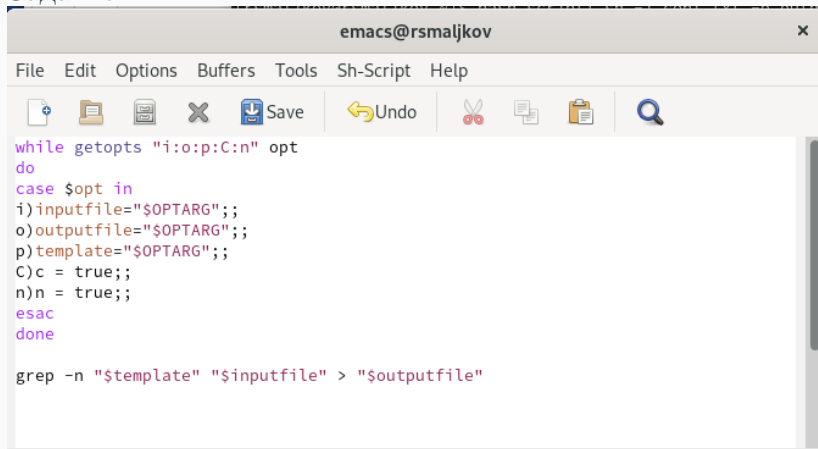
Лабораторная работа номер 11

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Изучить основы программирования в оболочке ОС UNIX.
Научится писать более сложные командные файлы с использованием логических управляющих конструкций и циклов.

Задание 1

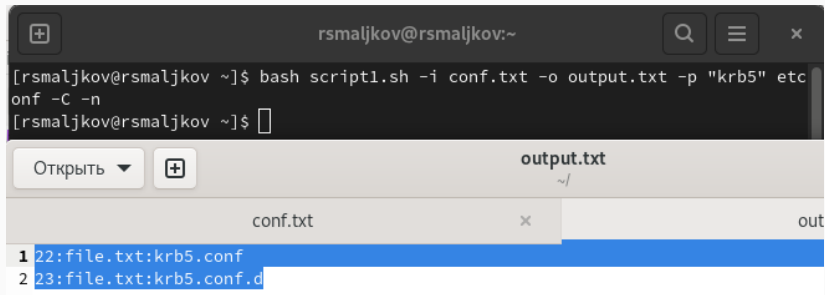


The screenshot shows the Emacs editor window titled "emacs@rsmaljkov". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "Sh-Script", and "Help". The toolbar contains icons for creating a new file, opening a file, saving a file, undo, redo, and search. The main text area contains a shell script with the following code:

```
while getopts "i:o:p:C:n" opt
do
case $opt in
i)inputfile="$OPTARG";;
o)outputfile="$OPTARG";;
p)template="$OPTARG";;
C)c = true;;
n)n = true;;
esac
done

grep -n "$template" "$inputfile" > "$outputfile"
```

(Скриншот 1)

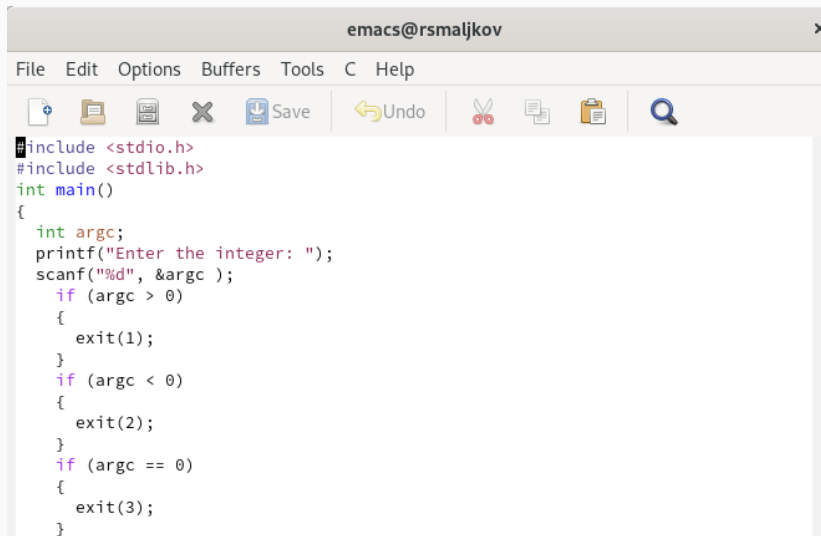


The screenshot shows a terminal window and a file manager interface. The terminal window, titled 'rsmaljkov@rsmaljkov:~', displays the command `bash script1.sh -i conf.txt -o output.txt -p "krb5" etc onf -C -n` and the prompt `[rsmaljkov@rsmaljkov ~]$`. Below the terminal, a file manager window shows two tabs: 'conf.txt' and 'output.txt'. The 'output.txt' tab is active, displaying the following content:

```
1 22:file.txt:krb5.conf
2 23:file.txt:krb5.conf.d
```

(Скриншот 2)

Задание 2



The screenshot shows an Emacs editor window titled "emacs@rsmaljkov". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "C", and "Help". The toolbar contains icons for opening a file, saving, undo, redo, and search. The code in the buffer is a C program that includes `<stdio.h>` and `<stdlib.h>`, and defines a `main` function. The function prints "Enter the integer: " and reads an integer into `argc`. It then uses `exit` with different status codes (1, 2, 3) based on the value of `argc`.

```
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int argc;
    printf("Enter the integer: ");
    scanf("%d", &argc );
    if (argc > 0)
    {
        exit(1);
    }
    if (argc < 0)
    {
        exit(2);
    }
    if (argc == 0)
    {
        exit(3);
    }
}
```

```
1 #!/bin/bash
2
3 gcc script2.c
4
5 ./a.out
6
7 ec=$?
8
9 if [ $ec == 1 ]
10 then
11     echo "input > 0"
12 fi
13
14 if [ $ec == 2 ]
15 then
16     echo "input < 0"
17 fi
18
19 if [ $ec == 3 ]
20 then
21     echo "input = 0"
22 fi
```

```
[rsmaljkov@rsmaljkov ~]$ bash script2.sh  
Enter the integer: 3  
input > 0  
[rsmaljkov@rsmaljkov ~]$
```

(Скриншоты 5)

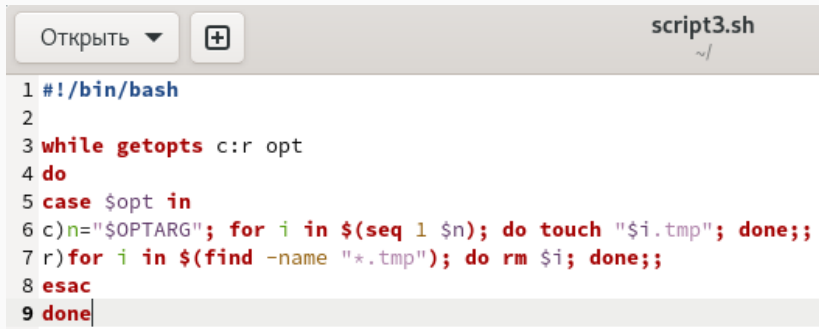
Задание 3

```
[rsmaljkov@rsmaljkov ~]$ bash script3.sh -c 4
[rsmaljkov@rsmaljkov ~]$ ls
1.tmp      catalogmc  lab07.sh~  output.txt  script2.c~  text.txt
2.tmp      conf.txt   main.c     Pictures    script2.sh  tmp
3.tmp      Desktop   main.lua   play        script2.sh~ Videos
4.tmp      Documents main.py     Public      script3.sh  work
abc1       Downloads may        reports     script3.sh~
a.out      features  monthly    script1.sh  scripts
australia  '#lab07.sh#' Music      script1.sh~ ski.places
backup     lab07.sh  my_os.bz2  script2.c   Templates
[rsmaljkov@rsmaljkov ~]$
```

(Скриншот 6)


```
[rsmaljkov@rsmaljkov ~]$ bash script3.sh -r
find: './play/games/play': Отказано в доступе
[rsmaljkov@rsmaljkov ~]$ ls
abc1      Documents  main.lua   Pictures   script2.c~  Templates
a.out     Downloads  main.py    play       script2.sh  text.txt
australia features    may        Public     script2.sh~ tmp
backup    '#lab07.sh#' monthly    reports    script3.sh  Videos
catalogmc lab07.sh    Music      script1.sh script3.sh~ work
conf.txt  lab07.sh~  my_os.bz2  script1.sh~ scripts
Desktop   main.c     output.txt script2.c   ski.places
[rsmaljkov@rsmaljkov ~]$
```

(Скриншот 7)



```
1 #!/bin/bash
2
3 while getopts c:r opt
4 do
5 case $opt in
6 c)n="$OPTARG"; for i in $(seq 1 $n); do touch "$i.tmp"; done;;
7 r)for i in $(find -name "*.tmp"); do rm $i; done;;
8 esac
9 done
```

(Скриншот 8)

Задание 4



```
1 while getopts ":p:" opt;
2 do
3 case $opt in
4 p)dir="$OPTARG"
5 esac
6 done
7 |
8 touch data.txt
9 find $dir -mtime -7 -mtime +0 -type f > data.txt
10 tar -cvf archive.tar -T data.txt
```

(Скриншот 9)

```
[rsmaljkov@rsmaljkov ~]$ bash script4.sh -p
find: './play/games/play': Отказано в доступе
./.cache/mesa_shader_cache/8f/27cbf3bfed5ef11eae6c84927e76d6453ea79
./.cache/mesa_shader_cache/9b/044571a28c2d2079aa302a9906896ef6e5b4f5
./.cache/mesa_shader_cache/6d/2c366683b541c4ae184bab4696fbb321eb8705
./.cache/mesa_shader_cache/c0/c27bf446c1124e75b5832729b34a8e3a851b4b
./.cache/mesa_shader_cache/90/a67a710bd82657e14dc609cd60dedc10140fd6
./.cache/mesa_shader_cache/ab/1de095bd43ddf464a644bbd3c525c9bc322e1c
./.cache/mesa_shader_cache/93/c9a9fbbb64fc6eeb9a4c38312164bea430a9eb
./.cache/mesa_shader_cache/9a/44d0b9087bfaf1eefe1141e1eb07307fc27692
./.cache/mesa_shader_cache/64/cab41ec1a8a2a79267749ea8b413e0934f4d64
```

(Скриншот 10)

Мы изучили основы программирования в оболочке ОС UNIX. Научились писать более сложные командные файлы с использованием логических управляющих конструкций и циклов.