Исходные текст программы:

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format PE console
entry start

include 'win32a.inc'

;--------------------------------------------------------------------------
section '.data' data readable writable

    strInput   db 'Input year, it should be >0 and <10000 ', 0
    strIncorrect db '%d is not correct year', 10, 0
    strScanInt   db '%d', 0                         ; string format to input int number
    strApril     db 'Next Easter will be %d of April', 10, 0
    strMay       db 'Next Easter will be %d of May', 10, 0

    a           dd ?   ; we use variables a-f to store information needed to use the Gauss algorithm
    b           dd ?
    cc          dd ?   ; word c is reserved in FASM, so we use cc
    d           dd ?
    e           dd ?
    f           dd ?
    year        dd 0
    NULL = 0

;--------------------------------------------------------------------------
section '.code' code readable executable
start:
    push strInput   ;we print message, that asks user to input the desired year
    call [printf]

    push year       ;We input the year from the user
    push strScanInt
```

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    call [scanf]
    mov eax, [year]

    cmp eax, 0      ;Checking for correct input
    jle fail
    cmp eax, 10000
    jge fail
Gauss:
    mov ecx, 19     ;a=year%19
    mov edx, 0
    div ecx
    mov [a], edx

    mov eax, [year]  ;b=year%4
    mov ecx, 4
    xor edx, edx
    div ecx
    mov [b], edx

    mov eax, [year]  ;cc=year%7
    mov ecx, 7
    xor edx, edx
    div ecx
    mov [cc], edx

    mov eax, [a]     ;d=(19*a+15)%30
    imul eax, 19
    add eax, 15
    mov ecx, 30
    xor edx, edx
    div ecx
    mov [d], edx
```

```
        mov eax, [b]   ;e=(2*b + 4*c + 6*d + 6)%7
        imul eax, 2
        mov ebx, [cc]
        imul ebx, 4
        add eax, ebx
        mov ebx, [d]
        imul ebx, 6
        add ebx, 6
        add eax, ebx
        mov ecx, 7
        xor edx, edx
        div ecx
        mov [e], edx

        mov eax, [d]      ;f=e+d
        add eax, [e]
        mov [f], eax

endOfGauss:
        mov eax, [f]     ;if f<=26 than we go to April
        cmp eax, 26
        jle April

        sub eax, 26     ;else we print May, with date = f-26
        push eax
        push strMay
        call [printf]

finishP:                ;procedure for exiting the program after any input
        call [getch]
        push NULL
```

```
        call [ExitProcess]


fail:                   ; procedure for outputing warning for incorrect input, it also finishes program after any
input
        push eax
        push strIncorrect
        call [printf]
        call [getch]
        push NULL
        call [ExitProcess]


April:                  ; procedure for calculating date in April, date = f+4
        add eax,4
        push eax
        push strApril
        call [printf]
        jmp finishP     ; here we jump straigth to finish


;------------------------------third act - including HeapApi-------------------------


section '.idata' import data readable
    library kernel, 'kernel32.dll',\
            msvcrt, 'msvcrt.dll',\
            user32,'USER32.DLL'


include 'api\user32.inc'
include 'api\kernel32.inc'
    import kernel,\
           ExitProcess, 'ExitProcess',\
           HeapCreate,'HeapCreate',\
           HeapAlloc,'HeapAlloc'
  include 'api\kernel32.inc'
    import msvcrt,\
```

```
printf, 'printf',\
scanf, 'scanf',\
getch, '_getch'
```