Ministry of Education and Science

Technical University of Moldova
CIM Faculty

R E P O R T

Laboratory work #3
Procedures.
V-11

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V-11

1. Declare a 10-size array X with integer DW numbers.
2. Calculate their sum (use procedure).
3. Use two procedures to calculate the requested condition.

S<0	Generate a substring with odd numbers
S≥0	Generate a substring with even numbers

Program code:

```
.data
x dw 4h, 2h, -2h, 5h, 3h, -3h, 7h, -11h , 5h, -6h
y dw 10 dup(?)
.code
start:
   mov ax, @data
   mov ds, ax

   call sum ;sum will be in ax
   cmp ax,0
   jng smaller

greaterOrEqual:
   call generateEven
   jmp finish

smaller:
   call generateOdd

finish:
   mov ah, 4Ch
   int 21h


sum proc
   mov si, 0
   mov cx, 10
   mov ax, 0
   repeat:
      add ax, x[si]
      inc si
      inc si
      loop repeat
   ret
sum endp


generateEven proc
   mov si, 0
   mov di, 0
   mov cx, 10
   repeat1:
      mov ax, x[si]
      shr ax, 1
      jc flag1 ;if cf=1 then ax x[si] is odd
      mov ax, x[si]
      mov y[di], ax ;add even element to y array
      inc di
      inc di
   flag1:
```

```
        inc si
        inc si
        loop repeat1
    ret
generateEven endp


generateOdd proc
    mov si, 0
    mov di, 0
    mov cx, 10
    repeat2:
        mov ax, x[si]
        shr ax, 1
        jnc flag2 ;if cf=0 then ax x[si] is odd
        mov ax, x[si]
        mov y[di], ax ;add odd element to y array
        inc di
        inc di
    flag2:
        inc si
        inc si
        loop repeat2
    ret
generateOdd endp

end start
```