64bit ALP to Accept 2 numbers and display sum: Anom Devgun

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|  |
| --- |
| %macro scall 4 |
|  |

|  |
| --- |
| mov rax,%1 |
|  |

|  |
| --- |
| mov rdi,%2 |
|  |

|  |
| --- |
| mov rsi,%3 |
|  |

|  |
| --- |
| mov rdx,%4 |
|  |

|  |
| --- |
| syscall |
|  |

|  |
| --- |
| %endmacro |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| section .data |
|  |

|  |
| --- |
| m1 db "Enter no. of array elements:",10d,13d |
|  |

|  |
| --- |
| l1 equ $-m1 |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| m2 db "Enter number:",10d,13d |
|  |

|  |
| --- |
| l2 equ $-m2 |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| m3 db "Array contents are:",10d,13d |
|  |

|  |
| --- |
| l3 equ $-m3 |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| m4 db "Addition is:",10d,13d |
|  |

|  |
| --- |
| l4 equ $-m4 |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| m5 db " " |
|  |

|  |
| --- |
| l5 equ $-m5 |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| section .bss |
|  |

|  |
| --- |
| num resb 20 |
|  |

|  |
| --- |
| cnt resb 20 |
|  |

|  |
| --- |
| cnt1 resb 20 |
|  |

|  |
| --- |
| cnt2 resb 20 |
|  |

|  |
| --- |
| array resb 200 |
|  |

|  |
| --- |
| char\_ans resb 16 |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| section .text |
|  |

|  |
| --- |
| global \_start |
|  |

|  |
| --- |
| \_start: |
|  |

|  |
| --- |
| scall 1,1,m1,l1 |
|  |

|  |
| --- |
| scall 0,0,num,3 |
|  |

|  |
| --- |
| call accept\_proc |
|  |

|  |
| --- |
| mov [cnt],bx |
|  |

|  |
| --- |
| mov [cnt1],bx |
|  |

|  |
| --- |
| mov [cnt2],bx |
|  |

|  |
| --- |
| mov rbp,array |
|  |

|  |
| --- |
| up1: |
|  |

|  |
| --- |
| scall 1,1,m2,l2 |
|  |

|  |
| --- |
| scall 0,0,num,3 |
|  |

|  |
| --- |
| call accept\_proc |
|  |

|  |
| --- |
| mov [rbp],bx |
|  |

|  |
| --- |
| add rbp,2 |
|  |

|  |
| --- |
| dec word[cnt] |
|  |

|  |
| --- |
| jnz up1 |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| scall 1,1,m3,l3 |
|  |

|  |
| --- |
| mov rbx,array |
|  |

|  |
| --- |
| mov ax,[cnt1] |
|  |

|  |
| --- |
| mov [cnt],ax |
|  |

|  |
| --- |
| up2: |
|  |

|  |
| --- |
| mov ax,[rbx] |
|  |

|  |
| --- |
| call display\_proc |
|  |

|  |
| --- |
| add rbx,2 |
|  |

|  |
| --- |
| dec byte[cnt] |
|  |

|  |
| --- |
| jnz up2 |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| scall 1,1,m4,l4 |
|  |

|  |
| --- |
| back1: |
|  |

|  |
| --- |
| mov ax,[cnt2] |
|  |

|  |
| --- |
| mov [cnt],ax |
|  |

|  |
| --- |
| mov ax,00h |
|  |

|  |
| --- |
| mov bx,00h |
|  |

|  |
| --- |
| mov rbx,array |
|  |

|  |
| --- |
| back2: |
|  |

|  |
| --- |
| add ax,[rbx] |
|  |

|  |
| --- |
| add bx,2 |
|  |

|  |
| --- |
| dec byte[cnt] |
|  |

|  |
| --- |
| jnz back2 |
|  |

|  |
| --- |
| call display\_proc |
|  |

|  |
| --- |
| mov rax,60 |
|  |

|  |
| --- |
| mov rdi,0 |
|  |

|  |
| --- |
| syscall |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| accept\_proc: |
|  |

|  |
| --- |
| mov rsi,num |
|  |

|  |
| --- |
| mov rbx,0 |
|  |

|  |
| --- |
| mov rax,0 |
|  |

|  |
| --- |
| mov rcx,2 |
|  |

|  |
| --- |
| back: |
|  |

|  |
| --- |
| rol rbx,04 |
|  |

|  |
| --- |
| mov al,[rsi] |
|  |

|  |
| --- |
| cmp al,39h |
|  |

|  |
| --- |
| jbe next |
|  |

|  |
| --- |
| sub al,07h |
|  |

|  |
| --- |
| next: |
|  |

|  |
| --- |
| sub al,30h |
|  |

|  |
| --- |
| add bx,ax |
|  |

|  |
| --- |
| inc rsi |
|  |

|  |
| --- |
| dec rcx |
|  |

|  |
| --- |
| jnz back |
|  |

|  |
| --- |
| ret |
|  |

|  |
| --- |
| display\_proc: |
|  |

|  |
| --- |
| mov rbp,char\_ans |
|  |

|  |
| --- |
| mov rcx,2 |
|  |

|  |
| --- |
| up3: |
|  |

|  |
| --- |
| rol al,04 |
|  |

|  |
| --- |
| mov dl,al |
|  |

|  |
| --- |
| and dl,0Fh |
|  |

|  |
| --- |
| cmp dl,09h |
|  |

|  |
| --- |
| jbe next1 |
|  |

|  |
| --- |
| add dl,07h |
|  |

|  |
| --- |
| next1: |
|  |

|  |
| --- |
| add dl,30h |
|  |

|  |
| --- |
| mov [rbp],dl |
|  |

|  |
| --- |
| inc rbp |
|  |

|  |
| --- |
| dec rcx |
|  |

|  |
| --- |
| jnz up3 |
|  |

|  |
| --- |
|  |
|  |

|  |
| --- |
| scall 1,1,char\_ans,3 |
|  |

|  |
| --- |
| scall 0,0,m5,l5 |
|  |

Ret

