Task 1:
Scan a variable n. Print the reverse of the number. (Example: 123 321)

Task 2:
Scan a variable n. Print the multiplication table of n (from 1 to 10).

Task 3:
Scan a variable n. Print all divisors of n.

Sample Problem and Solution

Problem: Write an assembly language program that performs the following tasks. Declare an array to hold 20 integers. Repeatedly read 20 integers from the user (one at a time). For each integer, add it to a running sum. Store the integers in the array. After all 20 integers have been entered, print the total sum of the numbers. Finally, print back all the numbers stored in the array in the order they were entered.

Solution:

```
extern    printf
extern    scanf

SECTION .data

cnt:    dq    0
c:    dq    0
sum:    dq    0
out_fmt:    db "%ld", 10, 0
in_fmt:        db "%ld",0
SECTION .bss
arr: resq 21

SECTION .text

global main
main:
    push    rbp

Loop:                ;while(counter<20)


```

```
23      mov rdi,in_fmt
24      mov rsi,c
25      call scanf          ;scan a int
26      mov rax,[c]
27
28      add [sum],rax           ;add to sum
29
30      mov rcx,[cnt]
31      mov [arr+8*rcx],rax     ;save to arr
32
33
34      add rcx,1
35      mov [cnt],rcx           ;increment counter
36
37      cmp rcx,20
38      jnz Loop
39
40      mov rax,0
41      mov [cnt],rax
42
43      mov rdi,out_fmt           ;print sum
44      mov rsi,[sum]
45      mov rax,0
46          call printf
47
48  print:                  ;print arr
49      mov rcx,[cnt]
50      mov rcx,[arr+8*rcx]
51
52      mov rdi,out_fmt
53      mov rsi,rcx
54
55      mov rax,0
56         call printf
57
58      mov rcx,[cnt]
59      add rcx,1
60      mov [cnt],rcx
61
62      cmp rcx,20
63      jnz print
64
65
```

```
66      pop     rbp
67
68      mov     rax,0
69      ret
```