

Lab07: MIPS Functions and the Stack Segment

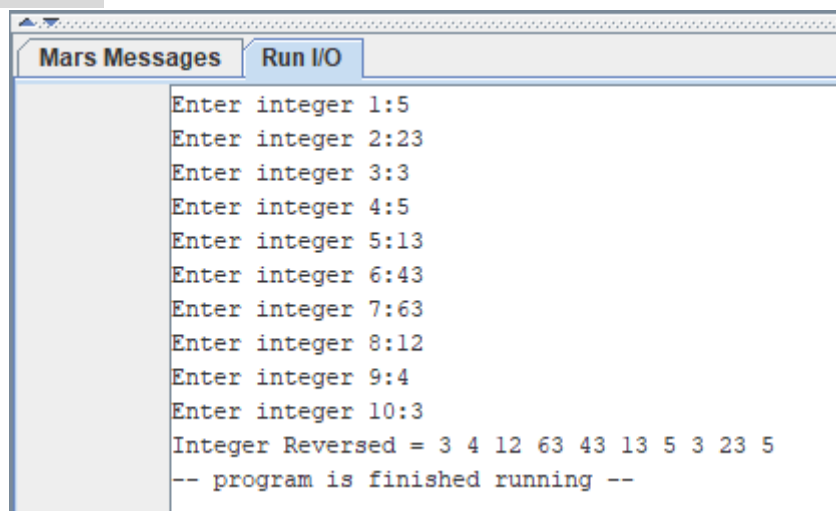
Note: You need to follow the printing style in the sample runs.

Task(s):

1. Write a MIPS assembly program that implements the **read**, **reverse**, and **print** functions used by **f** function in Figure 7.6 & Figure 7.7 in the PDF file. These functions should work with any size **n** (not only size 10). Then write a **main** function that calls function **f**.

```
void f(int n) {  
    int array[n];  
    read(array, n);  
    reverse(array, n);  
    print(array, n);  
}
```

SAMPLE RUN:

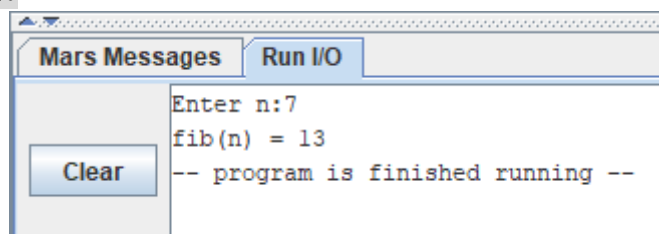


```
Mars Messages  Run I/O  
Enter integer 1:5  
Enter integer 2:23  
Enter integer 3:3  
Enter integer 4:5  
Enter integer 5:13  
Enter integer 6:43  
Enter integer 7:63  
Enter integer 8:12  
Enter integer 9:4  
Enter integer 10:3  
Integer Reversed = 3 4 12 63 43 13 5 3 23 5  
-- program is finished running --
```

2. Write a MIPS assembly program that asks the user for an integer **n** he wishes to compute the Fibonacci number at that index. Calculate **fib(n)** based on the following code. Finally, print out the result.

```
int fib(int n) {  
    if (n < 2) return n;  
    return (fib(n-1) + fib(n-2));  
}
```

SAMPLE RUN:



```
Mars Messages  Run I/O  
Enter n:7  
fib(n) = 13  
-- program is finished running --  
Clear
```