Name: …………….. KEY SOLUTION ……..………….….…………... **ID**: ……….….…….…..…...............

Write a program that prompts the user to enter a number n greater than 10, the code should keep asking the user for the number till n > 10. The code should then find the reduced sum of all digits of the number. The reduced sum of n is the sum of all digits of n that is less than 10.

Example:

$n = 458721857$ ➜ $4+5+8+7+2+1+8+5+7 = 47$

$n = 47$ ➜ $4 + 7 = 11$

$n = 11$ ➜ $1 + 1 = 2$ ➜ sum= $2 < 10$ .. stop.

Sample Program Run:

```
Enter a number n > 9: 5
Invalid, Enter a number n > 9: 2
Invalid, Enter a number n > 9: 58741
Reduced Sum of Digits of 58741 = 7
```

```c
#include <stdio.h>

int main(void){
    int n, r, m, sum;

    printf("Enter a number n > 9: ");
    scanf("%d",&n);

    while(n <= 9){
        printf("Invalid, Enter a number n > 9: ");
        scanf("%d",&n);
    }
    m = n;

    do{
        sum = 0;
        do{
            r = n%10;
            n = n/10;
            sum = sum + r;
        }while(n != 0);
        if(sum > 9)
            n = sum;
    }while(sum > 9);
    printf("Reduced Sum of Digits of %d = %d\n",m, sum);
    return 0;
}
```