PROGRAMMING AND PROBLEM SOLVING (SE 1105) MIDTERM	**A**	Grading				
		Q1	Q2	Q3	Q4	Σ

Instructors	ID #	Name-Surname	Time allowed	Date/Room #
Dr. Dindar ÖZ Dr. Anas Kademi			75 mins.	November 9, 2021 (18:30-19:45) X-XXX

Notes: If you believe that necessary data or assumptions are missing from the problem statement make your own assumption(s) and write them clearly.

QUESTIONS

1. **(30 pts.)** Write the outputs of the following programs.

a) (15pts)

```c
#include "stdio.h"

void main()
{
    int b = 0;
    for(int v = 2; v<10; v = v+3)
    {
        printf("%d ", v);
        for (; 2*b < v*v; b = b+v)
        {
            printf("%d ", b);
        }
        printf("%d\n",b);
    }
}
```

b) (15pts)

```c
#include "stdio.h"

void func(int arr1[], int arr2[], int pos)
{
    for (; arr1[pos] != -1; pos = arr1[pos])
    {
        for(int i = 0; i < arr2[pos]; i++)
        {
            printf("*");
        }
        printf("\n");
    }
}

void main()
{
    int arr1[] = { 3,6,0,5,2,7,-1,1};
    int arr2[] = { 1,2,3,4,5,6,7,8 };
    func(arr1, arr2, 4);

}
```

2. **(20 pts.)** Write a function that takes three **double** numbers namely **k,l**, and **m** as parameters. The function should return the maximum sum of any two of those. (Example: If k:**1.4** , l:**3.0** and **m:6.2** function returns 9.2)

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3. **(25 pts.)** Write a function that takes an integer array and its size as parameters. The function should return the sum of the even number that has the smallest index and the even number that has the greatest index. If the array does not contain any even number then the function returns 0.
    (**Example:** If the array= { 1, 4, 2, ,3, 7, 8, 3, 10, 6, 5 ,3} Then the difference is 6+4 = 10)

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4. **(25 pts.)** Write a function that takes an integer parameter namely n. The function returns the first integer that is greater n and whose number of positive divisors are equal to n.
(**Example** if n=5 then it returns 16 (the positive divisors of 16 are 1,2,4,8, and16))
(**Hint**: You may consider divide&conquer)

Good luck…