United International University (UIU)

Dept. of Computer Science and Engineering (CSE)

Class Test # 3 Year: **2023** Semester: **Spring**

Course: **CSE 1111** Title: **Structured Programming Language (Sec – A/V)**

Marks: **20** Time: **30 minutes**

2

Name:…….. **ID:** ……

Q.1 Write a C program that performs the following operations.

a) Create a user-defined function **int search(float arr[], int n ,float value)** that finds the **value** in the array. If found, it returns the **index**. If not found, returns **-1**.

b) In the **main()** function:

- Take the **size** of the array and the **array elements** from the user as input
- **Call** the user defined function by passing the array, the **size** and a **value** to search,

  Where, **value**= LAST_FOUR_DIGIT_OF_YOUR_STUDENT_ID % 10
- Display the index that has been returned by the user defined function. Else display "Not Found".

Answer:

```
#include <stdio.h>

int search(float arr[],int n,float value){
   for(int i=0;i<n;i++){
      if(arr[i]==value)
         return i;
   }
   return -1;
}

int main() {
   int n;
   printf("Enter the size: ");
   scanf("%d",&n);
   float a[n];
   printf("Enter the array elements: ");
   for(int i=0;i<n;i++){
      scanf("%f",&a[i]);
   }
   float val=5.0;
   int index=search(a,n,val);
   if(index==-1){
     printf("The searched element is found in the array\n");
   }
   else{
      printf("The searched element is found on index %d\n",index);
   }
   return 0;
}
```

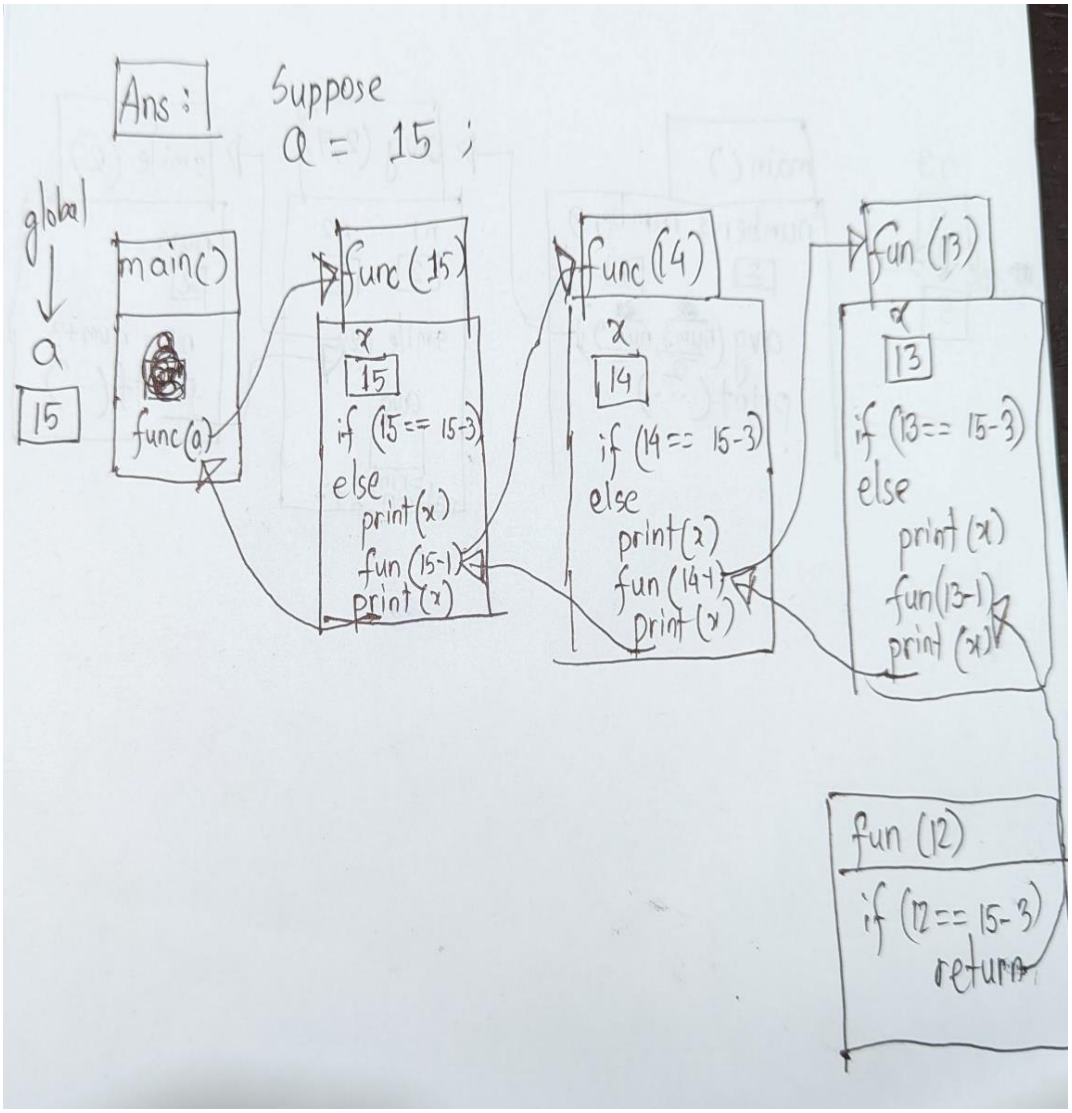
Q.2 **Find the output of the following program**

```
#include<stdio.h>
int a= last_two_digits_of_your_student_id;

void func(int x){
    if (x==a-3) return;

    else
    {
        printf("%d\n", x);
        func(x-1);
        printf("%d\n", x);
    }
}

int main()
{
    func(a);
    return 0;
}
```



Output:

15

14

13

13

14

15

Q.3 **Find the output of the following program:**

```
#include<stdio.h>
int a, b;

int func1(float x) {
    b=b*a;
    printf("%f\n", x);
    func2(5, 4.5);
    return b-1;
}
void func2(int x, float y){
    printf("%d %f\n", x, y);
}

int main(){
    a= last_two_digits_of_your_student_id %5;
    b= first_two_digits_of_your_student_id /5;
    printf("%d %d\n", b, a);
    a=func1(b+5.5);
    func2(12, 15.0);
    printf("%d %d\n", a, b);
    return 0;
}
```

Output:

2 1
7.500000
5 0.000000
12 15.000000
1 2