

CS101\_2018\_FA1\_Team1 60 minutes

## Question - 1 MCQ\_mark1

SCORE: 1 points

```
Predict the output of following program?
#include<stdio.h>
int main()
{
    printf("%d", printf("%d", 7654));
    return 0;
}

47654

76541

17654
```

Question - 2 Coding

SCORE: 10 points

Consider a 4 digit number as input. Find the sum of first and last digit of number . On the basis of sum perform the following calculations:

- if sum=1 then increments the second digit by 1 and decrements the 4th digit by 1 and compare the value of both the digits. if value of second digit is less than fourth digit then recalculate sum as sum=sum+1 else sum=sum+2 and print the new value of sum.
- if sum=2 then increments the first digit by 2 and decrements the third digit by 2 and recalculate the sum of all the 4 digits. print the size taken by new sum in memory(in bytes) using sizeof operator.
- if sum=3 then calculate first digit%2 and consider it as new value of first digit. New value of fourth digit would be old value of fourth digit\*2. Calculate the sum of all the four digits again by considering new values of digits and print the value of sum.
- if sum=4 then new value of first digit would be old value divisible by 2 and new value of fourth digit would be old value multiplied by 2. calculate new sum of first and fourth digit again by considering new values of both the digits. if sum is greater than zero and sum is odd then print new value of sum else print previous/old value of sum.
- if sum is greater than 4 then simply print the sum of first and last digits of number.

**Note:** While finding digits of a number first identified digit would be considered as first digit for further evaluation and so on.

For example: Number=1234 digit 1=4 (First digit) digit 2=3 (Second digit) digit 3=2 (Third digit) digit 4=1 (Fourth digit)

## **SAMPLE TEST CASE:**

case 1: if sum=1

```
1260
Explanation:
a1=0
a2 = 6
a3=2
a4 = 1
sum=0+1
a2=6+1
a4=1-1
a2 is not less than a4
sum=1+2=2
case 2: if sum=2
2640
4
Explanation: a1=0 a2=4 a3=6 a4=2
a1=0+2
a3=6-2
sum=2+4+4+2=12
case 3: if sum=3
1682
16
Explanation:
a1=2 a2=8 a3=6 a4=1
a1=2%2
a4=1*2
sum=0+8+6+2
case 4: if sum=4
2482
5
Explanation:
a1=2 a2=8 a3=4 a4=2
a1=2/2
a4=2*2
new sum=1+4=5
case 5: if sum is greater than 4
4861
5
Explanation: sum=1+4=5
Question - 3
                                                          SCORE: 1 points
MCQ_Mark2
#include <stdio.h>
int main()
 int a = 1;
 int b = 1;
 int c = a || --b;
 int d = a-- \&\& --b;
 printf("a = %d, b = %d, c = %d, d = %d", a, b, c, d);
 return 0;
   a = 0, b = 1, c = 1, d =
   a = 0, b = 0, c = 1, d =
```

```
a = 1, b = 1, c = 1, d =
   a = 0, b = 0, c = 0, d = 0
Question - 4
                                                           SCORE: 1 points
MCQ Mark_1
#include<stdio.h>
int main()
{
int a=7;
int b=5;
printf("%d\n",(a<b)&&(a=a+1));
printf("%d",a);
return 0;
}
   08
    0 7
    0 18
    17
Question - 5
                                                           SCORE: 1 points
MCQ_Mark1
Which of the following is not a valid variable name in C?
    cchar
        char
        chhar
        carh
Question - 6
                                                           SCORE: 1 points
MCQ_Mark2
What is the output of the following program?
#include<stdio.h>
int main()
  int a = 3, b = 2;
  float c = a + b/2;
  float d = (a+b)/2;
  printf("%.1f%.1f",c,d);
  return 0;
```

}

```
4.02.5
        2.52.5
        1.52.0
        4.02.0
Question - 7
                                                           SCORE: 1 points
MCQ_Mark2
What is the output of the following program?
#include<stdio.h>
int main()
  int a = 3;
  int b = 4;
  a = b++;
  printf("%d%d",a,b);
  return 0;
   35
        44
        45
    34
Question - 8
                                                           SCORE: 1 points
MCQ Mark_1
Predict the output of following
#include<stdio.h>
int main()
 int i = 10;
 printf("%d", ++(-i));
 return 0;
   0 10
    -9
```

-11

none