

Software Development Fundamentals Lab – I [15B17CI171]

Assignment Sheet Week 4 [27 sep -2 oct]

Lab A

EXERCISES:

Q1. Write a C Program which takes input 5 numbers and displays their sum.

Q2. Write a C Program which displays the bytes occupied by int, float, double, char data type.
(hint: use sizeof)

Q3. Write a C Program which takes the input from user and then displays your name, course, branch, year, etc. (Display the details in new line by using \n).

Q4. What is the output of the following program fragments?

- a)

```
int a;  
float b;  
a = 12/5;  
b = 12/5;  
printf("%d %f %d %f", a, a,b,b);  
printf("%d", 60*60*60/60/60);
```
- b)

```
double d;  
d = (float)40/5.4;  
printf("%.3f",d);
```
- c)

```
printf("%09d %-5d %+7d", 12, 12, 12);
```
- d)

```
float f=55555.5555;  
printf("%d %3.1f",f,f);
```
- f)

```
char c1;  
unsigned char c2;  
c1 = 128;  
c2 = 128;  
printf("%d %u\n", c1, c2);
```
- g)

```
char ch;  
int in;  
float fl;  
long int li;  
ch = 97;  
li = fl = in = ch;
```

```
printf(" %ld %f %i %c\n", li, fl, in, ch);
```

- h)

```
int i = 20;
printf("%d %o %x\n", i, i, i);
float f = 45.67890;
printf("%e %E %g %G\n", f,f,f,f);
```
- j)

```
int a=32;
printf("%d", printf(" hello I am %d",a));
```
- k)

```
printf("%d, printf(" hello I am %d"));
```
- l)

```
float a;
printf(" %d", scanf("%d", &a));
```
- m)

```
int a; a = 0;
printf(" %d %d %d", a, scanf("%d", &a), a); /* user input 23 */
```
- n)

```
char ch; int in; float fl; long int li;
printf(" %d", scanf(" %c %i %f %li", &ch, &in, &fl, &li));
```

Q5. Solve the following queries:

- (i). What would be the value of 'a':
 - a. $\text{int } a = 10/45*23\%45/(45\%4*21)$
 - b. $\text{float } a = 10+45.0*23-45+(4*21.0)$
- (ii). True or false (0 or not):
 - a. $4>5 \ \&\& \ 5>4$
 - b. $4>5 \ || \ 5>4$
 - c. $(232+23*1233) \ || \ 0$
 - d. $(232+23*1233) \ \&\& \ 0$
- (iii). If a is 15, then what would be the value of:

```
printf("%d",++a);
printf("%d",a++);
printf("%d",--a);
printf("%d",a--);
```
- (iv). What would be the output of:

```
printf("%d\n",1==5==5);
```
- (v). What is the error in:

```
int a;
3=a
```

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Lab B

EXERCISES:

Q1. Write a program to enter a 4 digit number from keyboard. Add 8 to the number and then divide it by 3. Now, the modulus of that number is taken with 5 and then multiply the resultant value by 5. Display the final result.

Q2. Now, solve the above question using assignment operators (eg. +=, -=, *=).

Q3. Write a program to enter the values of two variables from the keyboard and then interchange the values of the two variables. E.g.-

If entered value of x is 5 and y is 10 then

`printf("%d %d",x,y)`

should print 10 5.

Q4. The total number of students in a class are 45 out of which 25 are boys. If 80% of the total students secured grade 'A' out of which 15 are boys, then write a program to calculate the total number of girls getting grade 'A'.

Q5. Write a program to calculate the sum of the first and the second last digit of a 5 digit number entered from the keyboard.

Q6. Suppose you entered a 4 digit number. Write a program to display a number whose digits are 2 greater than the corresponding digits of the entered number. For example, if he entered number is 5696, then the displayed number should be 7818.

Q7. Write a program to calculate the sum of the digits of a 3-digit number which is entered from keyboard. E.g.- INPUT : 132 OUTPUT : 6

Q8. Write a program to reverse a 3-digit number which is entered from keyboard. E.g.- INPUT : 132 OUTPUT : 231