

Fall-2015

1.a) There are four errors in the following code. List down the errors and show the corrections. Write the output of the corrected program for the case when user enters 1 as the radius.

Ans:

Line 5 - error - double x;

Corrected - double x, result;

Line 7 - error - scanf ("%1f", x);

Corrected - scanf ("%1f", &x);

Line 7 - error - result - circumference (x); - the variable result used in the main function without being defined

Corrected - double result;

result - circumference (x);

Line 11 - error - int circumference (double n)

Corrected - double circumference (double n)

Output of the corrected program for the case;  
The circumference of the circle is 6.2832

Q Write a program that suggests various things given below: You have to code the logic part:

i) If-else - if control structure

ii) Switch case control structure

Ans:

```
#include <stdio.h>
int main()
{
    int num;
    printf("enter final score >");
    scanf("%d", &num);
    if (num >= 0 && num <= 19)
        printf("CSE is not cool!");
    else if (num >= 20 && num <= 39)
        printf("Your faculty is not cool!");
    else if (num >= 40 && num <= 59)
        printf("Try a bit harder, you are very close!");
    printf("You do not need help of this program!!!");
}
```

**2.A)** Write a program that takes a wordless than 25 characters as user input and then displays the first and last characters of the input.

Ans:

```
#include <stdio.h>
#include <string.h>
int main()
{
    char word[25];
    printf("enter a word >");
    scanf("%s", word);
    int i = strlen(word);
    printf("First character: %c, last character: %c", word[0], word[i-1]);
}
```

2.B) Write down a program that will take a password as input to a string and will print a message indicating whether it is STRONG or WEAK.

Ans:

```
#include <stdio.h>
int main()
{
    char pass[50];
    printf("enter password");
    gets(pass);
    int j, i=0, cb=0, cc=0, c1=0, cupr=0, clwr=0;
    while (pass[i]!='\0')
    {
        cc++;
        for (j='A'; j<='Z'; j++)
        {
            if (pass[i]==j)
            {
                cupr++; break;
            }
        }
        if (pass[i]==' ')
        {
            cb++;
        }
    }
    if (cc >= 8 && cb==0 && cupr>0 && clwr>0)
        printf("The password is strong");
    else printf("The password is weak");
}
```

3.A What will be the output of the following code segment?

```
float a = 3.0, b = 17.0;
float *fp;

fp = &b;
b++;
*fp = *fp - 2.0;
a = *fp;
a++;
printf("a = %d, b = %d", a, b);
```

Ans: I am not sure what will be output of this program because variable a and b are float type variables, but in the printf statement, instead of using %f, %d is being used.

I have run this program in codeblocks. The program returns some unusual values.

3.B Consider the following code to answer i) and ii),

```
*include <stdio.h>
```

```
int task (int n);
```

```
int main()
```

```
{  
    int num, xy;  
    printf("Enter a positive integer:\n");  
    scanf("%d", &num);  
    xy = task (num);
```

```
}  
int task (int n)
```

```
{  
    if (n==0)
```

```
        return n;
```

```
}  
else return n+task (n-1) //self call to function task ()
```

Ans: \*The program returns the sum of series  $1+2+3+4+\dots+r$

4.A Write a function average to compute and return the average element of an array of 20 integers. Your program should skip the numbers 3 and 6 in calculating the average.

```
double average (int x[]) {
```

```
    -----  
    -----  
}
```