ICS 103, Term 093

Computer Programming in C
Quiz# 2

Date: Tuesday, July 27, 2010

Q1. Determine the output of the following program:

```
#include <stdio.h>
int main(void) {
int i, j;
 for (i=5;i>=1; i--){
  for (j=i;j>=1; j--)
    printf("%d",j);
  printf("\n");
 }
return 0;
}
```

```
54321
4321
321
21
1
```

Q2. Rewrite the following shaded part using **for loop** instead of while loop:

```
#include <stdio.h>
int main(void) {
int i;
printf("Enter a number: ");
scanf("%d",&i);
while (i<0 || i>100){
  printf("Enter a number: ");
  scanf("%d",&i);
}
return 0;
}
```

```
 for ( printf("Enter a number: "),scanf("%d",&i);
       i<0 || i>100;
       printf("Enter a number: "),scanf("%d",&i) )
```

Q3. Write a program that asks the user to enter a positive number, n, and display s(n) computed as follows: $s(n) = \frac{1}{3} + \frac{1}{7} + \frac{1}{11} + \ldots\ldots + \frac{1}{4n+3}$. Note that $s(0) = \frac{1}{3}$ and $s(1) = \frac{1}{3} + \frac{1}{7}$. The user should be asked to renter the input if a negative value is entered. A sample execution of the program is given below:

```
Enter a positive number: -1
Enter a positive number: 3
s(3) =  1/3 + 1/7 + 1/11 + 1/15 = 0.63
Press any key to continue . . .
```

```c
#include <stdio.h>
#include <stdlib.h>

int main(void)
{

    int i, n;
    double s=0;

    do{
       printf ("Enter a positive number: ");
       scanf("%d", &n);
    }while (n<0);

    printf("s(%d) = ",n);

    for (i=0; i<=n;i++){
        s += 1.0/(4*i+3);
        if ( i==0)
          printf(" 1/%d ",4*i+3);
        else
          printf("+ 1/%d ",4*i+3);
    }

    printf("= %.2f\n",s);


    system("pause");
    return 0;
}
```