Name: KEY Id#

ICS 103, Term 092

Computer Programming in C

Quiz# 2

 Date: Sunday, April 11, 2010

**Q1.** Determine the output of the following program:

**#include <stdio.h>**

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**int main(void) {**

**int number, digits, sum;**

**digits=sum=0;**

**number=12345;**

**do {**

 **sum+=number%10;**

 **number=number/10;**

 **digits++;**

**}while(number>0);**

**printf("%d\n%d\n",digits,sum);**

**return 0;**

**}**

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

**#include <stdio.h>**

**int main(void) {**

**int i, j, p;**

**for(i=1, j=1, p=0;i<50 && j < 20;i\*=2, j++)**

 **p+=i+2\*j;**

**return 0;**

**}**

**i=1;**

**j=1;**

**p=0;**

**while (i<50 && j < 20){**

**p+=i+2\*j;**

**i\*=2;**

**j++;**

**}**

**}}**

**Q3.** The value of π can be determined by the series equation:

 

Write a program that takes the **number of terms** as input and returns an approximation of the value of π for the given number of terms.

#include <stdio.h>

#include <stdlib.h>

int main(void)

{

int i,n;

double pi;

printf("Enter number of terms: ");

scanf("%d",&n);

for(i=0;i<n;i++){

 if (i%2==0)

 pi += 1.0/(2\*i+1);

 else

 pi -= 1.0/(2\*i+1);

}

pi \*= 4;

printf("PI = %f\n",pi);

system("pause");

return 0;

}