Assignment 2: Control statements – I

Implement C programs for the following problem statements:

 To find the sum of individual digits of a positive and negative integer.

```
#include<stdio.h>
int main()
{
    int n,sum=0;
    printf("enter integer=");
    scanf("%d",&n);
while (n != 0)
    {
        sum=sum+n%10;
        n=n/10;
    }
    if (sum<0)
    {
        sum= (-1)*sum;
        printf ("sum of individual digits of the given integer is %d",sum);
    }
    else
    {
        printf("sum of individual digits of the given integer is %d",sum);
    }
    return 0;
}
```

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 To check whether given number is Prime or composite.

```
#include <stdio.h>
int main() {
  int n, i, flag = 0;
  printf("Enter a positive integer= ");
  scanf("%d", &n);

  for (i = 2; i <= n / 2; ++i) {
    if (n % i == 0) {
      flag = 1;
      break;
    }
  }

  if (n == 1) {
    printf("1 is neither prime nor composite.");
  }
  else {
    if (flag == 0)
      printf("%d is a prime number.", n);
    else
      printf("%d is a composite number.", n);
  }
  return 0;
}
```

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 To calculate square of numbers whose least significant digit is 5.

```
#include<stdio.h>
int main()
{
int n, s, ls;
printf(“Enter the number whose least significant digit is 5: \n”);
scanf("%d",&n);
ls=n%10;
s = n*n;

{
if(ls== 5)
printf("Square of the number is = %d",s);

else
printf ("Invalid number");
}
return 0;
}
```

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 Padovan sequence

```
#include <stdio.h>
int main() {

  int i, n, t1 = 1, t2 = 1, t3=1;
  int nextTerm = t1 + t2;

  printf("Enter the number of terms: ");
  scanf("%d", &n);

  printf("Padovan Series: %d, %d, %d ", t1, t2, t3);
  // print 4th to nth terms
  for (i = 3; i <= n; ++i) {
    printf(",%d  ", nextTerm);
    t1 = t2;
    t2 = t3;
    t3 = nextTerm;
    nextTerm = t1 + t2;
  }
  return 0;
}
```

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Find out the sum of series 1^2 + 2^2 + ... + n^2

```
#include<stdio.h>
int main()
{
	int n, sum;
	printf("Enter the number of terms in series: ");
	scanf("%d",&n);

	sum = (n * (n + 1) *(2*n + 1)) / 6;
	printf("Sum of the series is %d ", sum);

	return 0;
}
```

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