

**PF LAB:6**

**24K-0514**

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## QUESTION 1:

Which loop system would be better for user input. Justify your answer by creating a program that takes a value and adds it to a variable and prints it repeatedly until the user enters a zero value.

```
C: > Users > HP > C sum.c > main()
1  #include<stdio.h>
2  int main()
3  {
4      int number,sum=0;
5      do
6      {
7
8          printf("enter a number");
9          scanf("%d",&number);
10         sum=sum+number;
11     }
12     while(number!=0);
13     printf("sum is %d",sum);
14     return 0;
15 }
```

## OUTPUT:

```
C:\Users\HP>gcc sum.c -o sum.exe

C:\Users\HP>sum.exe
enter a number5
enter a number9
enter a number4
enter a number8
enter a number65
enter a number0
sum is 91
C:\Users\HP>_
```

## QUESTION 2:

Write a program to check whether a given number is a multiple digit number or not.

```
1  #include<stdio.h>
2  ∨ int main()
3  {
4      int number,count=1;
5      printf("enter a number");
6      scanf(" %d",&number);
7  ∨ while(number>0)
8  {
9      number=number/10;
10 ∨ if(number==0)
11 {
12     break;
13 }
14 ∨ else
15 {
16     count=count+1;
17 }
18 }
19 ∨ if(count==1)
20 {
21     printf("single digit number");
22 }
23 ∨ else
24 {
25     printf("multiple %d digit number",count);
26 }
27     return 0;
28 }
```

## OUTPUT:

```
C:\Users\HP>gcc digit.c -o digit.exe
```

```
C:\Users\HP>digit.exe
```

```
enter a number7
```

```
single digit number
```

```
C:\Users\HP>digit.exe
```

```
enter a number89
```

```
multiple 2 digit number
```

```
C:\Users\HP>_
```

## QUESTION 3:

Using the above program integrate the number if it is a prime or composite number.

```
#include<stdio.h>
int main()
{
    int number,count=1,i=0,divisor=1,remainder,dividor;
    printf("enter a number");
    scanf(" %d",&number);
    dividor=number;
    while(dividor>0)
    {
        dividor=dividor/10;
        if(dividor==0){
            break;
        }
        else
        {
            count=count+1;
        }
    }
    if(count==1){
        printf("single digit number");
    }
    else
    {
        printf("multiple %d digit number",count);
    }
    while(divisor<=number)
    {
        remainder=number%divisor;
        if(remainder==0)
        {
            i++;
        }
        divisor++;
    }
    if(i==2)
    {
        printf("\nprime number");
    }
    else
    {
        printf("\ncomposite number");
    }

    return 0;
}
```

## OUTPUT:

```
C:\Users\HP>prime.exe
enter a number7
single digit number
prime number
C:\Users\HP>prime.exe
enter a number91
multiple 2 digit number
composite number
C:\Users\HP>_
```

## QUESTION 4:

Write a program to print the following series: 1, 2, 3, 5, 8, 13.

```
C: > Users > HP > C series1.c > main()
1  #include<stdio.h>
2  int main()
3  {
4      int a,sum=1;
5      for(a=0;a<=5;a=sum-a)
6      {
7          sum=sum+a;
8          printf("%d \t ",sum);
9      }
10     return 0;
11 }
```



OUTPUT:

```
C:\Users\HP>gcc series1.c -o series1.exe
```

```
C:\Users\HP>series1.exe
```

```
1      2      3      5      8      13
```

```
C:\Users\HP>
```

## QUESTION 5:

Using for-loop statement print the following series:

65536, 32768, 10922, 2730, 546, 91, 13, 1, 0,

```
1  #include<stdio.h>
2  ✓ int main()
3  {
4      int a=65536;
5  ✓  for(int b=2;b<=10;b++)
6      {
7          printf("%d \t",a);
8          a=a/b;
9      }
10
11     return 0;
12 }
```

## OUTPUT:

```
C:\Users\HP>gcc series2.c -o series2.exe
```

```
C:\Users\HP>series2.exe
```

```
55536  32768  10922  2730  546  91  13  1  0
```

```
C:\Users\HP>
```

## QUESTION 6:

Create a C program to calculate the following series using loop statements.,

1, 2, 2, 4, 8, 32, 256, 8192, 2097152,

```
1  #include<stdio.h>
2  int main()
3  {
4      int a, multiple=1;
5      for(a=2;a<=8192;a=multiple/a)
6      {
7          printf("%d \t ",multiple);
8          if(a==8192)
9          {
10             break;
11          }
12          multiple=multiple*a;
13      }
14      return 0;
15 }
```

## OUTPUT:

```
C:\Users\HP>gcc series3.c -o series3.exe
```

```
C:\Users\HP>series3.exe
```

```
1      2      2      4      8      32     256     8192     2097152
```

```
C:\Users\HP>
```