

C assignments – Day 16 (16-Sept-2022)

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Que1- Write a program to read a number from user and display the multiplication of all its digits.

With do while

```
#include <stdio.h>
void main(){
    int a,b,mult=1;
    printf("Enter your number\n");
    scanf("%d",&a);
    do{
        b = a%10;
        a/=10;
        mult *= b;
    }while (a>0);
    printf("The multiplication of all the digits of the number provided is %d",mult);
}
```

With for

```
#include <stdio.h>
void main(){
    int a,b,mult=1;
    printf("Enter your number\n");
    scanf("%d",&a);
    for (a;a>0;a/=10){
        b = a%10;
        mult *= b;
    }
    printf("The multiplication of all the digits of the number provided is %d",mult);
}
```

With while

```
#include <stdio.h>
void main(){
    int a,b,mult=1;
    printf("Enter your number\n");
    scanf("%d",&a);
    while (a>0){
```

```

        b = a%10;
        a/=10;
        mult *= b;
    }
    printf("The multiplication of all the digits of the number provided is %d",mult);
}

```

Que2- Write a program to read a number from user and count all the even numbers in that number.

With while

```

#include <stdio.h>
void main(){
    int a,b,count=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    while (a>0){
        b=a%10;
        a/=10;
        if(b%2==0){
            count++;
        }
    }
    printf("Entered number contains %d even numbers", count);
}

```

With do while

```

#include <stdio.h>
void main(){
    int a,b,count=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    do{
        b=a%10;
        a/=10;
        if(b%2==0){
            count++;
        }
    }while (a>0);
    printf("Entered number contains %d even numbers", count);
}

```

With for

```
#include <stdio.h>
void main(){
    int a,b,count=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    for (a;a>0;a/=10){
        b=a%10;
        if(b%2==0){
            count++;
        }
    }
    printf("Entered number contains %d even numbers", count);
}
```

Que3- Write a program to read a number from user and count all the odd numbers in that user.

With while

```
#include <stdio.h>
void main(){
    int a,b,count=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    while (a>0){
        b=a%10;
        a/=10;
        if(b%2==1){
            count++;
        }
    }
    printf("Entered number contains %d odd numbers", count);
}
```

With for

```
#include <stdio.h>
void main(){
    int a,b,count=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    for (a;a>0;a/=10){
        b=a%10;
        if(b%2==1){
            count++;
        }
    }
}
```

```

    }
}
printf("Entered number contains %d odd numbers", count);
}

```

With do while

```

#include <stdio.h>
void main(){
    int a,b,count=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    for (a;a>0;a/=10){
        b=a%10;
        if(b%2==1){
            count++;
        }
    }
    printf("Entered number contains %d odd numbers", count);
}

```

Que4 - Write a program to read a number from user and check if the given number is an Armstrong number or not.

With while

```

#include <stdio.h>
void main(){
    int num,b,c,entered_num,sum=0;
    printf("Enter your number\n");
    scanf("%d",&num);
    entered_num=num;
    while (num>0){
        b = num%10;
        num/=10;
        b*=b*b;
        sum+=b;
    }
    if (sum == entered_num)
        printf("Given number is an Armstrong number");
    else
        printf("Given number is not an Armstrong number ");
}

```

With for

```
#include <stdio.h>
void main(){
    int num,b,c,entered_num,sum=0;
    printf("Enter your number\n");
    scanf("%d",&num);
    entered_num=num;
    for (num;num>0;num/=10){
        b = num%10;
        b*=b*b;
        sum+=b;
    }
    if (sum == entered_num)
        printf("Given number is an Armstrong number");
    else
        printf("Given number is not an Armstrong number ");
}
```

With do while

```
#include <stdio.h>
void main(){
    int num,b,c,entered_num,sum=0;
    printf("Enter your number\n");
    scanf("%d",&num);
    entered_num=num;
    do{
        b = num%10;
        num/=10;
        b*=b*b;
        sum+=b;
    }while (num>0);
    if (sum == entered_num)
        printf("Given number is an Armstrong number");
    else
        printf("Given number is not an Armstrong number ");
}
```

Que5- Write a program to read a number from user and find sum of square of all its numbers.

With while

```
#include <stdio.h>
void main(){
    int a,b,sqr,sum=0;
```

```

printf("Enter your number\n");
scanf("%d",&a);
while(a>0){
    b= a%10;
    a/=10;
    sqr=b*b;
    sum+=sqr;
}
printf("The sum of squares of all the digits of the entered number is
%d",sum);
}

```

With for

```

#include <stdio.h>
void main(){
    int a,b,sqr,sum=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    for(a;a>0;a/=10){
        b= a%10;
        sqr=b*b;
        sum+=sqr;
    }
    printf("The sum of squares of all the digits of the entered number is
%d",sum);
}

```

With do while

```

#include <stdio.h>
void main(){
    int a,b,sqr,sum=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    do{
        b= a%10;
        a/=10;
        sqr=b*b;
        sum+=sqr;
    }while(a>0);
    printf("The sum of squares of all the digits of the entered number is
%d",sum);
}

```

Que6- Write a program to read a number from user and display the sum of all its even digits.

With while

```
#include <stdio.h>
void main(){
    int a,b,sum=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    while (a>0){
        b=a%10;
        a/=10;
        if(b%2==0){
            sum+=b;
        }
    }
    printf("The sum of all the even digits of the entered number is %d ", sum);
}
```

With for

```
#include <stdio.h>
void main(){
    int a,b,sum=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    for (a;a>0;a/=10){
        b=a%10;
        if(b%2==0){
            sum+=b;
        }
    }
    printf("The sum of all the even digits of the entered number is %d ", sum);
}
```

With do while

```
#include <stdio.h>
void main(){
    int a,b,sum=0;
    printf("Enter your number\n");
    scanf("%d",&a);
    do{
        b=a%10;
        a/=10;
        if(b%2==0){
```

```

        sum+=b;
    }
}while (a>0);
printf("The sum of all the even digits of the entered number is %d ", sum);
}

```

Que7- Write a program to read a number from user and multiply all the digits of that number and check if the result is Armstrong or not.

With while

```

//The program is valid for checking 3 digits numbers only.
#include <stdio.h>
void main()
{
    int a, b, mult = 1, actual_mult, sum = 0;
    printf("Enter your number\n");
    scanf("%d", &a);
    while (a > 0)
    {
        b = a % 10;
        a /= 10;
        mult *= b;
    }
    actual_mult=mult;
    while (mult > 0)
    {
        b = mult % 10;
        mult /= 10;
        b *= b * b;
        sum += b;
    }
    // It has been assumed that the multiplication as a three digit number.
    if (sum == actual_mult)
        printf("The multiplication of all the digits of the number entered an
Armstrong number");
    else
        printf("The multiplication of all the digits of the number entered not an
Armstrong number");
}

```

With for

```

//The program is valid for checking 3 digits numbers only.
#include <stdio.h>

```



```

void main()
{
    int a, b, mult = 1, actual_mult, sum = 0;
    printf("Enter your number\n");
    scanf("%d", &a);
    for (a; a > 0; a /= 10)
    {
        b = a % 10;
        mult *= b;
    }
    actual_mult=mult;
    for (mult; mult > 0; mult /= 10)
    {
        b = mult % 10;
        b *= b * b;
        sum += b;
    }
    // It has been assumed that the multiplication as a three digit number.
    if (sum == actual_mult)
        printf("The multiplication of all the digits of the number entered an
Armstrong number");
    else
        printf("The multiplication of all the digits of the number entered not an
Armstrong number");
}

```

With do while

```

//The program is valid for checking 3 digits numbers only.
#include <stdio.h>
void main()
{
    int a, b, mult = 1, actual_mult, sum = 0;
    printf("Enter your number\n");
    scanf("%d", &a);
    do
    {
        b = a % 10;
        a /= 10;
        mult *= b;
    }while (a > 0);
    actual_mult=mult;
    do
    {
        b = mult % 10;

```

```

        mult /= 10;
        b *= b * b;
        sum += b;
    }while (mult > 0);
    // It has been assumed that the multiplication as a three digit number.
    if (sum == actual_mult)
        printf("The multiplication of all the digits of the number entered an
Armstrong number");
    else
        printf("The multiplication of all the digits of the number entered not an
Armstrong number");
}

```

Que-8 Write a program to print all the Armstrong numbers between two provided numbers

```

#include <stdio.h>
#include <math.h>
void main(){
    int num,b,c,entered_num,sum=0;
    printf("Enter your number\n");
    scanf("%d",&num);
    int count=0;
    while (num>0){
        num/=10;
        count++;
    }
    entered_num=num;
    while (num>0){
        b = num%10;
        num/=10;
        c=pow(b,count);
        sum+=c;
    }
    if (sum == entered_num)
        printf("Given number is an Armstrong number");
    else
        printf("Given number is not an Armstrong number ");
}

```