

## LAB 6

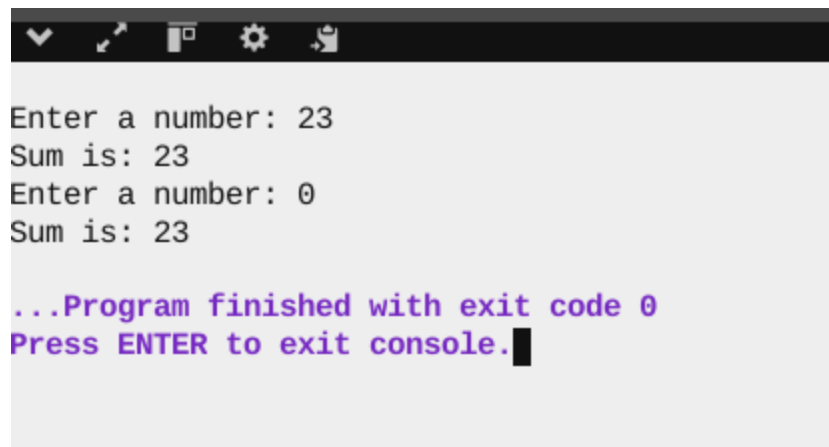
### ● Problem 1:

We will use do-while loop because the body of do-while will execute at least once no matter if the condition is true or false. So if we want to take user input at least once, we will use do-while loop.

Source code:

```
#include <stdio.h>
int main() {
    int num,sum=0;
    do
    {
        printf("\nEnter a number: ");
        scanf("%d",&num);
        sum=sum+num;
        printf("Sum is: %d",sum);
    }
    while(num>0);
}
```

Output:



```
Enter a number: 23
Sum is: 23
Enter a number: 0
Sum is: 23

...Program finished with exit code 0
Press ENTER to exit console.█
```

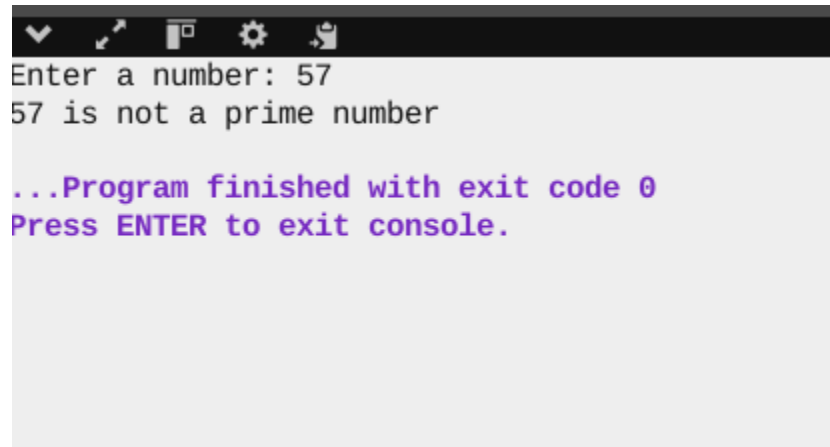
- Problem 2:

Source code:

```
#include <stdio.h>
int main() {
int num,i,flag=0;
printf("Enter a number: ");
scanf("%d",&num);
for (i=2;i<num;i++)
{
    if (num%i==0)
    {
        flag=1;
        break;
    }
}
if(flag==0)
printf("%d is a prime number",num);
else
printf("%d is not a prime number",num);

}
```

Output:

A screenshot of a console window with a dark title bar containing standard window controls. The console text shows a prompt 'Enter a number: 57', followed by the output '57 is not a prime number'. Below this, in purple text, it says '...Program finished with exit code 0' and 'Press ENTER to exit console.'

```
Enter a number: 57
57 is not a prime number

...Program finished with exit code 0
Press ENTER to exit console.
```

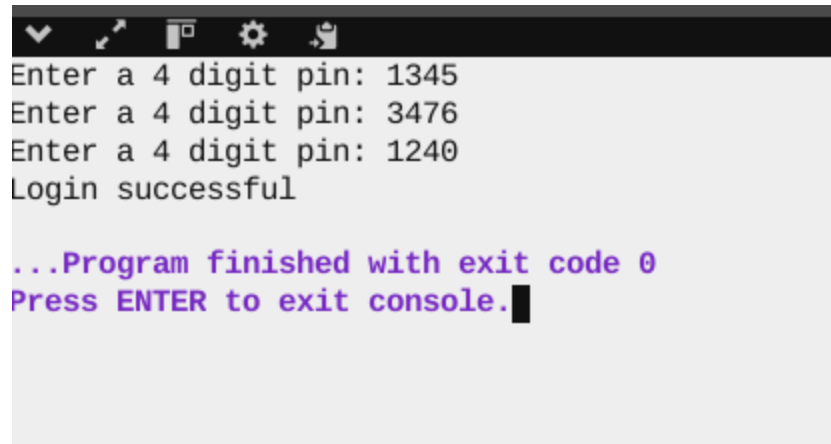
- Problem 3:

Source code:

```
#include <stdio.h>
int main() {
    int pass,count=1;
    while(count<=3)
    {
        printf("Enter a 4 digit pin: ");
        scanf("%d",&pass);
        if (pass==1240)
        {
            printf("Login successful");
            break;
        }
        count++;
    }

}
```

Output:



```
Enter a 4 digit pin: 1345
Enter a 4 digit pin: 3476
Enter a 4 digit pin: 1240
Login successful

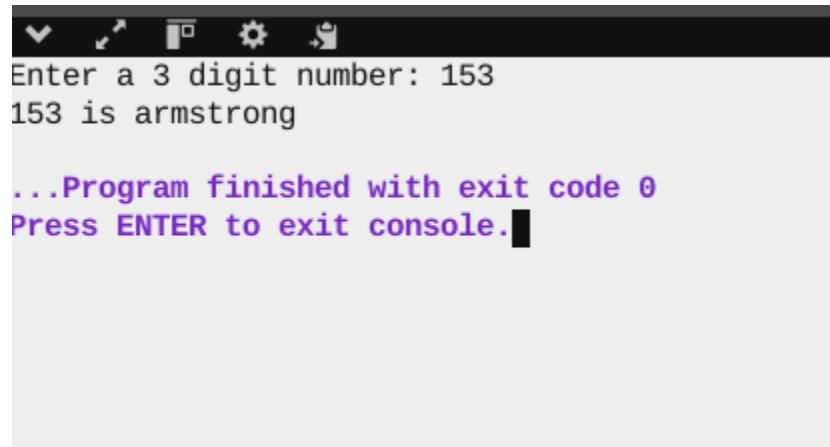
...Program finished with exit code 0
Press ENTER to exit console.
```

- Problem 4:

Source code:

```
#include <stdio.h>
int main() {
    int num,d1,d2,d3,total;
    printf("Enter a 3 digit number: ");
    scanf("%d",&num);
    d1=num/100;
    d2=(num%100)/10;
    d3=num%10;
    total = (d1*d1*d1)+(d2*d2*d2)+(d3*d3*d3);
    if (num==total)
        printf("%d is armstrong",num);
    else
        printf("%d is not armstrong",num);
}
```

Output:



```
Enter a 3 digit number: 153
153 is armstrong

...Program finished with exit code 0
Press ENTER to exit console.
```

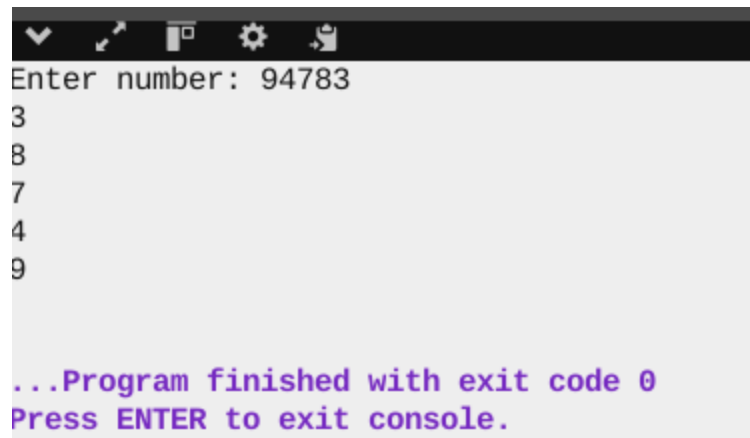
- Problem 5:

Source code:

```
#include <stdio.h>
int main() {
    int num;
    printf("Enter number: ");
    scanf("%d",&num);
    do{
        printf("%d\n",num%10);
        num = num/10;
    }
    while (num>0);

}
```

Output:



```
Enter number: 94783
3
8
7
4
9

...Program finished with exit code 0
Press ENTER to exit console.
```

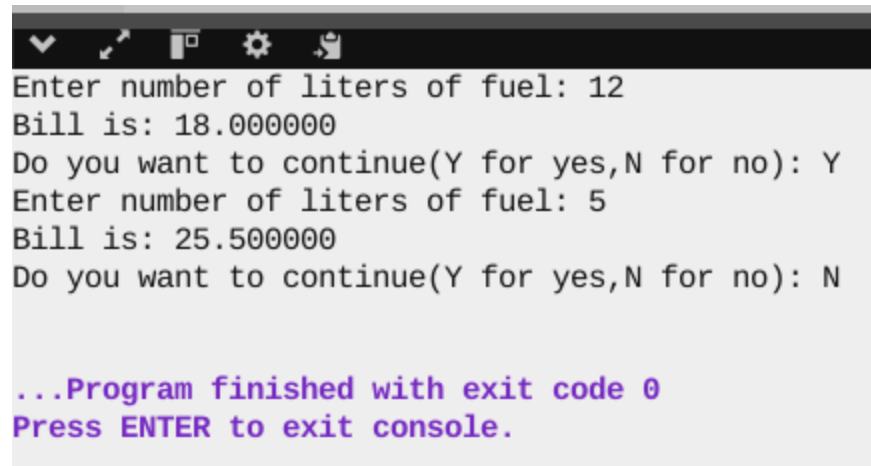
- Problem 6:

Source code:

```
#include <stdio.h>
int main() {
    int lit;
    float cost=0;
    char c;
    do{
        printf("Enter number of liters of fuel: ");
        scanf("%d",&lit);
        cost=(cost+(lit*1.5));
        printf("Bill is: %f\n",cost);
        printf("Do you want to continue(Y for yes,N for no): ");
        scanf(" %c",&c);
    }
    while(c=='Y');
```

```
}
```

Output:

A screenshot of a console window with a dark title bar and a light gray background. The window contains the following text: "Enter number of liters of fuel: 12", "Bill is: 18.000000", "Do you want to continue(Y for yes,N for no): Y", "Enter number of liters of fuel: 5", "Bill is: 25.500000", "Do you want to continue(Y for yes,N for no): N". At the bottom, there is a purple text message: "...Program finished with exit code 0" and "Press ENTER to exit console.".

```
Enter number of liters of fuel: 12
Bill is: 18.000000
Do you want to continue(Y for yes,N for no): Y
Enter number of liters of fuel: 5
Bill is: 25.500000
Do you want to continue(Y for yes,N for no): N

...Program finished with exit code 0
Press ENTER to exit console.
```

### ● Problem 7:

Source code:

```
#include <stdio.h>
int main()
{
    int lit,i,x=0,y=1,sum,flag=0;
    float cost = 0;
    char c;
    do{
        printf("Enter number of liters of fuel: ");
        scanf("%d",&lit);
        cost+=(lit*1.5);
        printf("Bill is: %.1f\n",cost);
        printf("Do you want to continue(Y for yes,N for no): ");
        scanf(" %c",&c);
    }
    while(c=='Y');
```

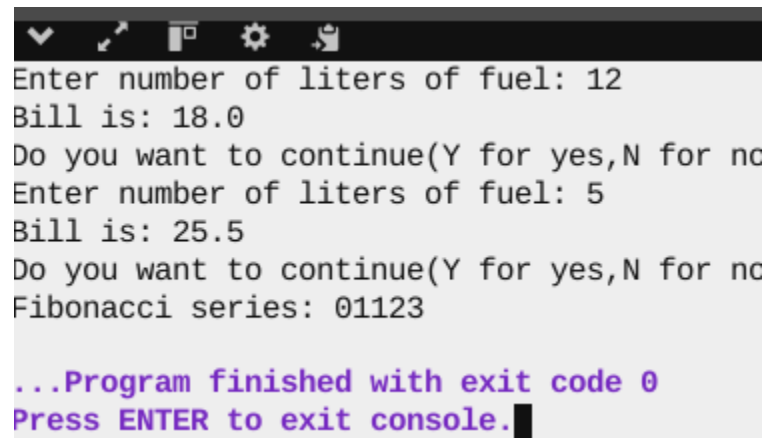
```

//fibonacci series:
for (i=2;i<lit;i++)
{
    if (lit%i==0)
    {
        flag=1;
        break;
    }
}
if(flag==0)
{
    printf("Fibonacci series: ");
    for (i=1; i<=lit; i++)
    {
        printf("%d",x);
        sum=x+y;
        x=y;
        y=sum;
    }
}
else
    printf("%d is not a prime number so no fibonacci series",lit);
}

```

Output:



A terminal window with a dark title bar containing icons for window management and settings. The terminal text shows a program that calculates fuel bills and prints a Fibonacci series. It prompts for fuel liters, calculates a bill, asks if the user wants to continue, and then prints a Fibonacci series. The program ends with a message about the exit code and a prompt to press ENTER.

```
Enter number of liters of fuel: 12
Bill is: 18.0
Do you want to continue(Y for yes,N for no):
Enter number of liters of fuel: 5
Bill is: 25.5
Do you want to continue(Y for yes,N for no):
Fibonacci series: 01123

...Program finished with exit code 0
Press ENTER to exit console.
```

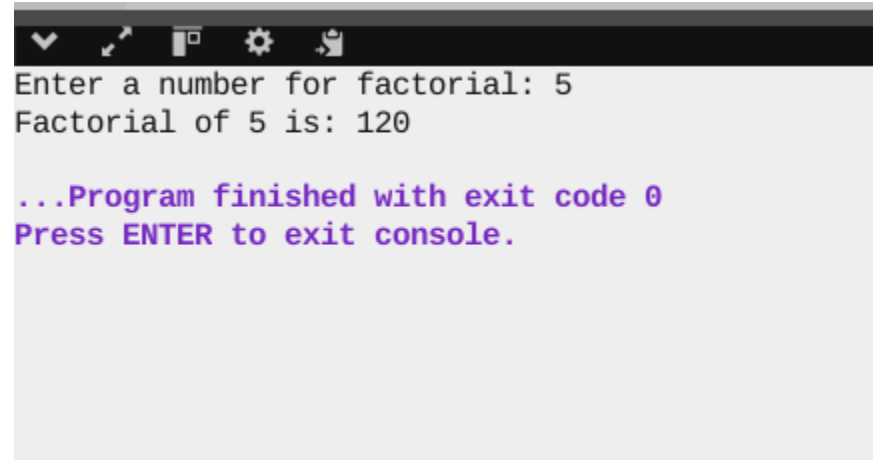
- Problem 8:

Source code:

```
#include <stdio.h>
int main()
{
    int num,i,fact=1;
    printf("Enter a number for factorial: ");
    scanf("%d",&num);
    for (i=num;i>=1;i--)
    {
```

```
        fact=fact*i;
    }
    printf("Factorial of %d is: %d",num,fact);
}
```

Output:

A screenshot of a console window with a dark title bar containing standard window controls (minimize, maximize, close) and a gear icon. The main area is light gray and displays the following text: "Enter a number for factorial: 5" on the first line, "Factorial of 5 is: 120" on the second line, and two lines of purple text: "...Program finished with exit code 0" and "Press ENTER to exit console." on the third and fourth lines respectively.

```
Enter a number for factorial: 5
Factorial of 5 is: 120

...Program finished with exit code 0
Press ENTER to exit console.
```