Name: Aditi Kohale

Course: C, DSA and C++

Assignment 4: For Loop and if else

Q.1. WAP to see if a given no. is a multiple of three:

```
aditi@DESKTOP-ANL3TOH: /n
//To see if a number is a multiple of three


#include<stdio.h>

void main()
{
        int num;
        printf("Enter a number:\n");
        scanf("%d",&num);
        if(num%3==0)
        {
                printf("%d is a multiple of 3\n",num);
        }
        else
        {
                printf("%d is not a multiple of 3\n",num);
        }
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques1.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ cc ques1.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter a number:
18
18 is a multiple of 3
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter a number:
32
32 is not a multiple of 3
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$
```

Q.2. WAP to print the character whose ASCII value is even:

```
aditi@DESKTOP-ANL3TOH: /n
//To print the character whose ASCII value is even


#include<stdio.h>

void main()
{
        char ch;
        printf("Enter a character:\n");
        scanf("%c",&ch);
        if(ch%2==0)
        {
                printf("The ASCII value of %c is even\n",ch);
        }
        else
        {
                printf("The ASCII value of %c is not even\n",ch);
        }
}
~
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques2.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ cc ques2.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter a character:
A
The ASCII value of A is not even
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter a character:
B
The ASCII value of B is even
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$
```

Q.3. WAP to print all the even nos. in reverse order and odd nos. in standard manner and both separately and within a range:

```
aditi@DESKTOP-ANL3TOH: /n
//To print all the evn nos. in reverse order and odd nos. in standard manner


#include<stdio.h>

void main()
{
        int start,end;
        printf("Enter the start and the end (Range):\n");
        scanf("%d %d",&start,&end);
        printf("Even Nos. in reverse order in the given range:\n");
        for(int i=end;i>=start;i--)
        {
                if(i%2==0)
                {
                printf("%d ",i);
                }
        }
        printf("\n");
        printf("Odd nos. in standard order in the given range:\n");
        for(int i=start;i<=end;i++)
        {
                if(i%2!=0)
                {
                printf("%d ",i);
                }
        }
        printf("\n");
}
"ques3.c" 29L, 512C
```

Output:

```
                int
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques3.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ cc ques3.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter the start and the end (Range):
1 10
Even Nos. in reverse order in the given range:
10 8 6 4 2
Odd nos. in standard order in the given range:
1 3 5 7 9
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$
```

Q.4. WAP to find a number that is divisible by 5 in the given range:

aditi@DESKTOP-ANL3TOH: /n

```c
//To find a number that is divisible by 5 in the given range


#include<stdio.h>

void main()
{
        int start,end;
        printf("Enter the start and the end of the Range:\n");
        scanf("%d %d",&start,&end);

        printf("The numbers that are divisible by 5 in the given Range are:\n");
        for(int i=start;i<=end;i++)
        {
                if(i%5==0)
                {
                        printf("%d\n",i);
                }
        }
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques3.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques4.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ cc ques4.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter the start and the end of the Range:
1 30
The numbers that are divisible by 5 in the given Range are:
5
10
15
20
25
30
```

Q.5. WAP to take the number and print all the factors of that number:

aditi@DESKTOP-ANL3TOH: /n

```c
//To take a number and print all the factors of that number

#include<stdio.h>

void main()
{
        int num;
        printf("Enter the number:\n");
        scanf("%d",&num);
        printf("Factors of %d are:\n",num);
        for(int i=1;i<=num;i++)
        {
                if(num%i==0)
                {
                        printf("%d\n",i);
                }
        }
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques5.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ cc ques5.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter the number:
10
Factors of 10 are:
1
2
5
10
```

Q.6. WAP to calculate factorial of a given no.:

aditi@DESKTOP-ANL3TOH: /n

```c
//Factorial


#include<stdio.h>

void main()
{
        int num;
        int fact=1;
        printf("Enter a Number:\n");
        scanf("%d",&num);
        for(int i=1;i<=num;i++)
        {
                fact=fact*i;
        }
        printf("The factorial of %d is %d",num,fact);
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques5.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques6.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ cc ques6.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter a Number:
5
The factorial of 5 is 120aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$
```

Q.7. WAP to calculate the LCM of given two numbers:

aditi@DESKTOP-ANL3TOH: /n

```c
//LCM of given two numbers


#include<stdio.h>

void main()
{
        int num1,num2;
        int max,lcm;
        printf("Enter two numbers:\n");
        scanf("%d %d",&num1,&num2);
        if(num1>num2)
        {
                max=num1;
        }
        else
        {
                max=num2;
        }
        for(lcm=max; ;lcm++)
        {
                if(lcm%num1==0 && lcm%num2==0)
                {
                        printf("LCM of %d and %d is %d\n",num1,num2,lcm);
                        break;
                }
        }
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques7.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ cc ques7.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter two numbers:
4 8
LCM of 4 and 8 is 8
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter two numbers:
25 5
LCM of 25 and 5 is 25
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$
```

Q. 8. WAP to take two characters and if same print as it is if different print their difference:

aditi@DESKTOP-ANL3TOH: /n

```c
#include<stdio.h>

void main()
{
        char ch1,ch2;
        printf("Enter two characters:\n");
        scanf("%c %c",&ch1,&ch2);
        if(ch1==ch2)
        {
                printf("Character 1 = %c and Character 2 = %c\n",ch1,ch2);
        }
        else
        {
                int diff;
                if(ch1<ch2)
                {
                        diff=ch2-ch1;
                        printf("Difference between %c and %c is %d\n",ch1,ch2,diff);
                }
                else
                {
                        diff=ch1-ch2;
                        printf("Difference between %c and %c is %d\n",ch1,ch2,diff);
                }
        }
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques7.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques8.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ cc ques8.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter two characters:
A P
Difference between A and P is 15
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$
```

Q.9. WAP to calculate sq. root of a number from the range 100 to 300:

aditi@DESKTOP-ANL3TOH: /n

```c
//Sq. root of a no.

#include<stdio.h>
#include<math.h>
void main()
{
        double num;
        printf("Enter a number:\n");
        scanf("%lf",&num);
        double sqRoot = sqrt(num);
        printf("Square Root of %.2f is %.2f\n",num,sqRoot);
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ cc ques9.c -lm
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter a number:
25
Square Root of 25.00 is 5.00
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter a number:
65
Square Root of 65.00 is 8.06
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$
```

Q.10. WAP to find the multiplicative inverse of the numbers in the given range:

aditi@DESKTOP-ANL3TOH: /n

```
//Multiplicative inverse


#include<stdio.h>

void main()
{
        double start, end;
        printf("Enter the range (Start and end):\n");
        scanf("%lf %lf",&start,&end);
        printf("Multiplicative inverse of the numbers in the range are:\n");
        for(double i=start;i<=end;i++)
        {
                printf("Multipliactive Inverse of %lf is %lf\n",i,1/i);
        }
}
~
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ vim ques10.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ cc ques10.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/Assignment4$ ./a.out
Enter the range (Start and end):
1 5
Multiplicative inverse of the numbers in the range are:
Multipliactive Inverse of 1.000000 is 1.000000
Multipliactive Inverse of 2.000000 is 0.500000
Multipliactive Inverse of 3.000000 is 0.333333
Multipliactive Inverse of 4.000000 is 0.250000
Multipliactive Inverse of 5.000000 is 0.200000
```