MANIPUR TECHNICAL UNIVERSITY

AN ASSIGNMENT FOR
PRINCIPLES OF PROGRAMMING LANGUAGE

Submitted to:

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Submitted by:
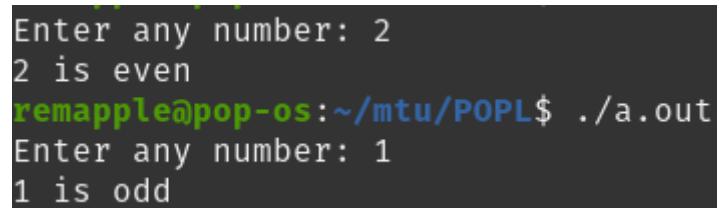
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Semester: 3rd Semester

Q1. Write a C program to check whether a number is even or odd using ternary operator.

Source code:

```c
#include <stdio.h>
int main()
{
        int num;
        printf("Enter any number: " );
        scanf("%d",&num);
        num%2==0?printf("%d is even\n",num):printf("%d is odd\n",num);
        return 0;
}
```
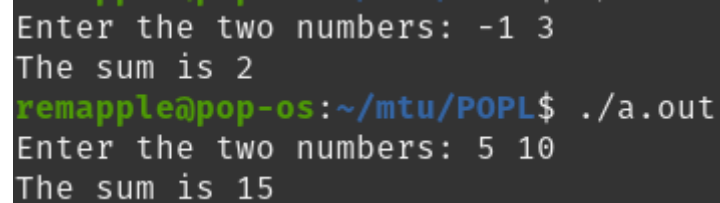
```
Enter any number: 2
2 is even
remapple@pop-os:~/mtu/POPL$ ./a.out
Enter any number: 1
1 is odd
```

Q2. Write a C program to perform the addition of two numbers without using + operator.

Source Code:

```c
#include <stdio.h>
int main()
{
        int num1,num2,sum;
        printf("Enter the two numbers: ");
        scanf("%d %d",&num1,&num2);
        sum=num1-(-num2);
        printf("The sum is %d\n",sum);
}
```
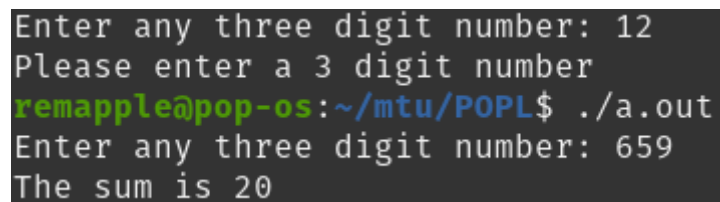
```
Enter the two numbers: -1 3
The sum is 2
remapple@pop-os:~/mtu/POPL$ ./a.out
Enter the two numbers: 5 10
The sum is 15
```

Q3. Write a C program to find the sum of individual digits of three digit numbers.

Source Code:

```c
#include <stdio.h>
int main()
{
        int num, remainder,sum=0, count=0;
        printf("Enter any three digit number: ");
        scanf("%d",&num);
        while(num!=0)
        {
                remainder=num%10;
                sum += remainder;
                num=num/10;
                count++;
        }
        if(count!=3)
        {
                printf("Please enter a 3 digit number\n");
                return 0;
        }
        else
        printf("The sum is %d\n",sum);
}
```

```
Enter any three digit number: 12
Please enter a 3 digit number
remapple@pop-os:~/mtu/POPL$ ./a.out
Enter any three digit number: 659
The sum is 20
```

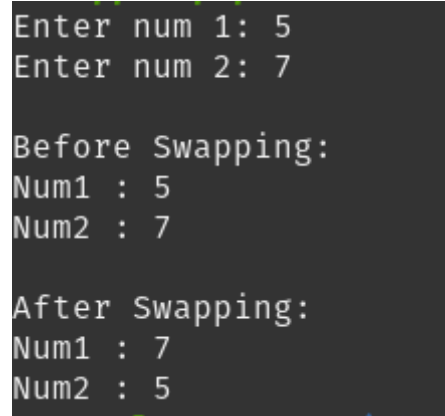Q4. Write a C program to swap two numbers.

Source Code:

```c
#include <stdio.h>
int main()
{
        int num1,num2,swap;
        printf("Enter num 1: ");
        scanf("%d",&num1);
        printf("Enter num 2: ");
        scanf("%d",&num2);
        printf("\nBefore Swapping:\nNum1 : %d\nNum2 : %d\n",num1,num2);
```

```
        // Swapping
        swap=num1;
        num1=num2;
        num2=swap;

        printf("\nAfter Swapping:\nNum1 : %d\nNum2 : %d\n",num1,num2);
}
```

```
Enter num 1: 5
Enter num 2: 7

Before Swapping:
Num1 : 5
Num2 : 7

After Swapping:
Num1 : 7
Num2 : 5
```
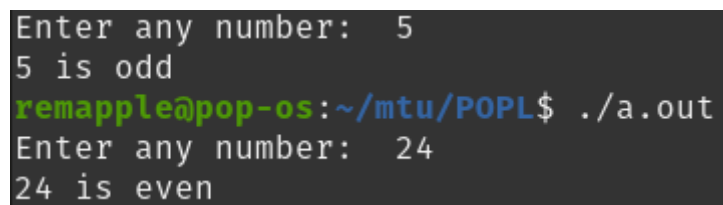
Q5. C program to check whether a number is even or odd.

Source Code:

```
#include<stdio.h>
int main()
{
        int num;
        printf("Enter any number:  ");
        scanf("%d",&num);
        if(num%2==0)
                printf("%d is even\n",num);
        else
                printf("%d is odd\n",num );
}
```

```
Enter any number:  5
5 is odd
remapple@pop-os:~/mtu/POPL$ ./a.out
Enter any number:  24
24 is even
```

Q6. C program to find the Natural Numbers

Source Code:

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

```c
{
    int sum=0,n,i;
    printf("Enter any positive integer: ");
    scanf("%d",&n);
    for(i=n;i>0;i--)
    {
        sum += i;
    }
    printf("The sum is: %d\n",sum);


}
```

```
Enter any positive integer: 5
The sum is: 15
remapple@pop-os:~/mtu/POPL$ ./a.out
Enter any positive integer: 3
The sum is: 6
```

Q7. C program to subtract two integers using Minus Operator.

Source Code:

```c
#include<stdio.h>
int main()
{
    int num1,num2,sub;
    printf("Enter the two integers: ");
    scanf("%d %d",&num1,&num2);
    sub=num1-num2;
    printf("Sub= %d\n",sub);
}
```
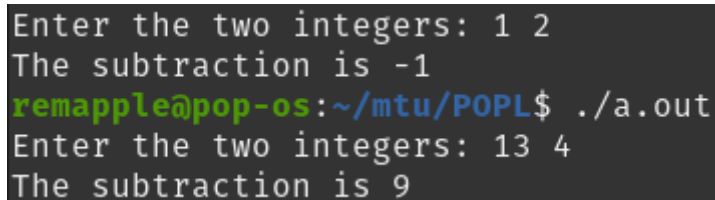
```
Enter the two integers: 12 3
Sub= 9
remapple@pop-os:~/mtu/POPL$ ./a.out
Enter the two integers: 4 5
Sub= -1
```

Q8. C program to subtract two integers without using minus operator.

Source Code:

```c
#include<stdio.h>
int main()
{
        int num1,num2;
        printf("Enter the two integers: ");
        scanf("%d %d",&num1,&num2);
        while(num2!=0)
        {
                num1--;
                num2--;
        }
        printf("The subtraction is %d\n",num1);
}
```
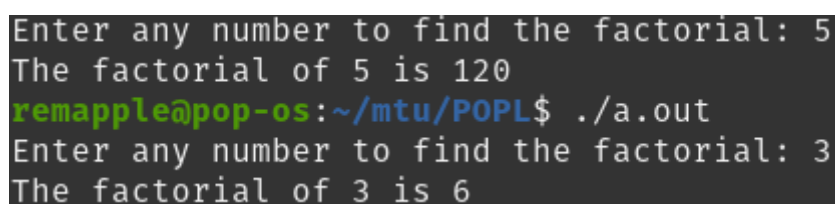
```
Enter the two integers: 1 2
The subtraction is -1
remapple@pop-os:~/mtu/POPL$ ./a.out
Enter the two integers: 13 4
The subtraction is 9
```

Q9. C program to find the factorial of a number.

Source Code:

```c
#include<stdio.h>
int main()
{
        int i,num,fact=1;
        printf("Enter any number to find the factorial: ");
        scanf("%d",&num);
        for(i=num;i>0;i--)
        {
                fact *= i;
        }
        printf("The factorial of %d is %d\n",num,fact);
        return 0;
}
```
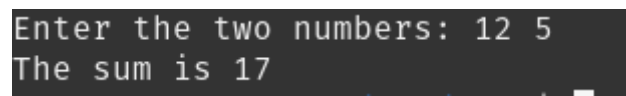
```
Enter any number to find the factorial: 5
The factorial of 5 is 120
remapple@pop-os:~/mtu/POPL$ ./a.out
Enter any number to find the factorial: 3
The factorial of 3 is 6
```

Q10. C program to add two numbers.

Source Code:

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

        int num1, num2, sum;
        printf("Enter the two numbers: ");
        scanf("%d %d",&num1,&num2);
        sum=num1+num2;
        printf("The sum is %d\n",sum);
}
```

```
Enter the two numbers: 12 5
The sum is 17
```