

# **University of engineering & technology Peshawar**



## **COMPUTER PROGRAMMING -theory**

### **Assignment no#01**

**Spring 2020**

**Submitted by: Ashfaq Ahmad**

**Section: B**

**Reg No: 19PWCSE1795**

**Semester: 2<sup>nd</sup>**

**“On my honor, as a student of University of Engineering and Technology Peshawar, I have neither given nor received unauthorized assistance on this academic work”**

Student signature: \_\_\_\_\_

**Submitted to:**  
**Prof: Javaid Ather Sethi**

**Department Of Computer System Engineering**

**Task 1:** Implement 8\*1 multiplexer using if-else statement.

**Source code:**

```
#include<iostream>

using namespace std;

int main()
{
    int I0=0,I1=1,I2=2,I3=3,I4=4,I5=5,I6=6,I7=7;

    int S0,S1,S2;

    int Y;

    cout<<"Enter first number for select line S2 : ";

    cin>>S2;

    cout<<"Enter second number select line S1 : ";

    cin>>S1;

    cout<<"Enter third number for select line S0 : ";

    cin>>S0;

    if (S2==0 && S1==0 && S0==0)
    {
        Y = I0;

        cout<<"Value of output is : "<<Y;

    }

    else if (S2==0 && S1==1 && S0==1)
    {
        Y = I1;

        cout<<"Value of output is : "<<Y;

    }
```

```
else if (S2==0 && S1==1 && S0==0)
{
    Y = I2;

    cout<<"Value of output is :"<<Y;
}
else if (S2==0 && S1==1 && S0==1)
{
    Y = I3;

    cout<<"value of output is :"<<Y;
}
else if (S2==1 && S1==0 && S0==0)
{
    Y = I4;

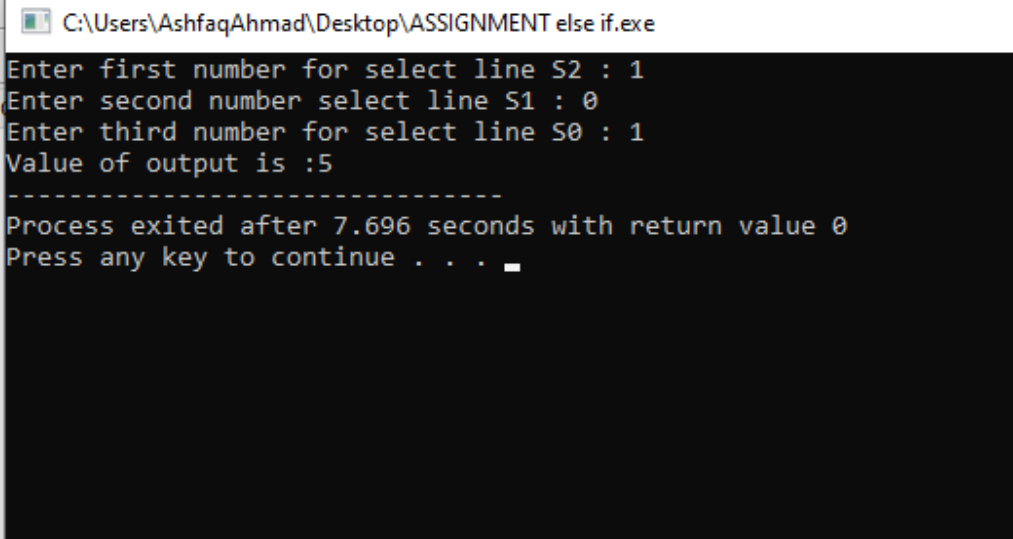
    cout<<"Valur of output is :"<<Y;
}
else if (S2==1 && S1==0 && S0==1)
{
    Y = I5;

    cout<<"Value of output is :"<<Y;
}
else if (S2==1 && S1==1 && S0==0)
{
    Y = I6;

    cout<<"Value output is :"<<Y;
}
else if (S2==1 && S1==1 && S0==1)
```

```
{  
    Y = 17;  
    cout<<"Vlaue of output is :"<<Y;  
}  
Return 0;  
}
```

### Compilation:



```
C:\Users\AshfaqAhmad\Desktop\ASSIGNMENT else if.exe  
Enter first number for select line S2 : 1  
Enter second number select line S1 : 0  
Enter third number for select line S0 : 1  
Value of output is :5  
-----  
Process exited after 7.696 seconds with return value 0  
Press any key to continue . . .
```

**Task 2:** Implement 8\*1 multiplexer using conditional operator.

**Source code:**

```
#include<iostream>

using namespace std;

int main()
{
    int I0=0,I1=1,I2=2,I3=3,I4=4,I5=5,I6=6,I7=7;

    int S0,S1,S2;

    cout<<"Enter first number for select line S2 : ";

    cin>>S2;

    cout<<"Enter second number select line S1 : ";

    cin>>S1;

    cout<<"Enter third number for select line S0 : ";

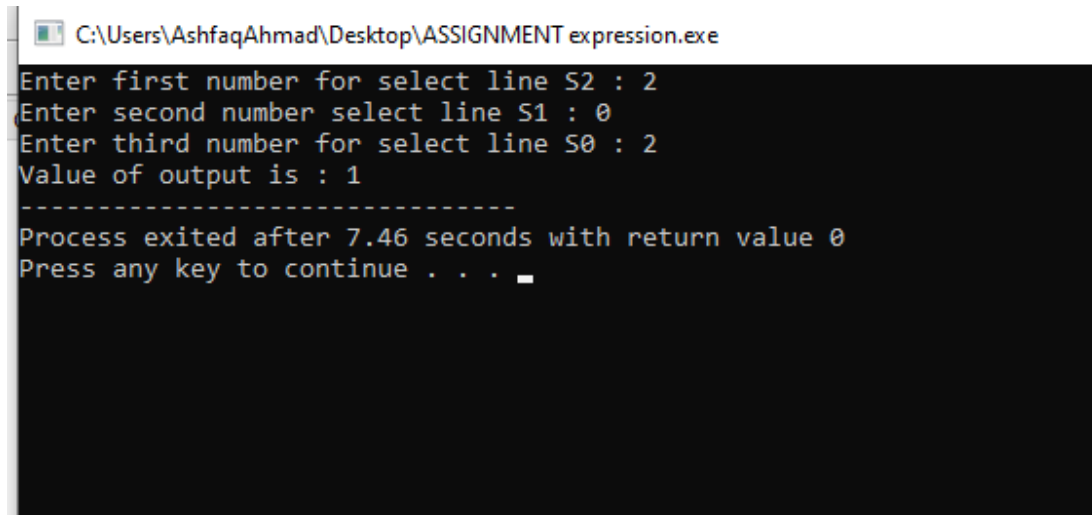
    cin>>S0;

    int Y=(S2==0)?(S1==0)?(S0==0?I0:I1): (S2==0)? (S0==0?I2:I3) :
(S1==0)?(S0==0?I4:I5) :(S0==0?I6:I7);

    cout<<"Output is : "<<Y;

    return 0;
}
```

Compilation:



```
C:\Users\AshfaqAhmad\Desktop\ASSIGNMENT expression.exe
Enter first number for select line S2 : 2
Enter second number select line S1 : 0
Enter third number for select line S0 : 2
Value of output is : 1
-----
Process exited after 7.46 seconds with return value 0
Press any key to continue . . .
```

**Task 3:** Implement 8\*1 multiplexer using expression.

**Source code:**

```
#include<iostream>

using namespace std;

int main()
{
    int I0=1,I1=0,I2=0,I3=1,I4=1,I5=1,I6=0,I7=0;

    int S0,S1,S2;

    int Y;

    cout<<"Enter first number for select line S2 : ";
    cin>>S2;

    cout<<"Enter second number select line S1 : ";
    cin>>S1;

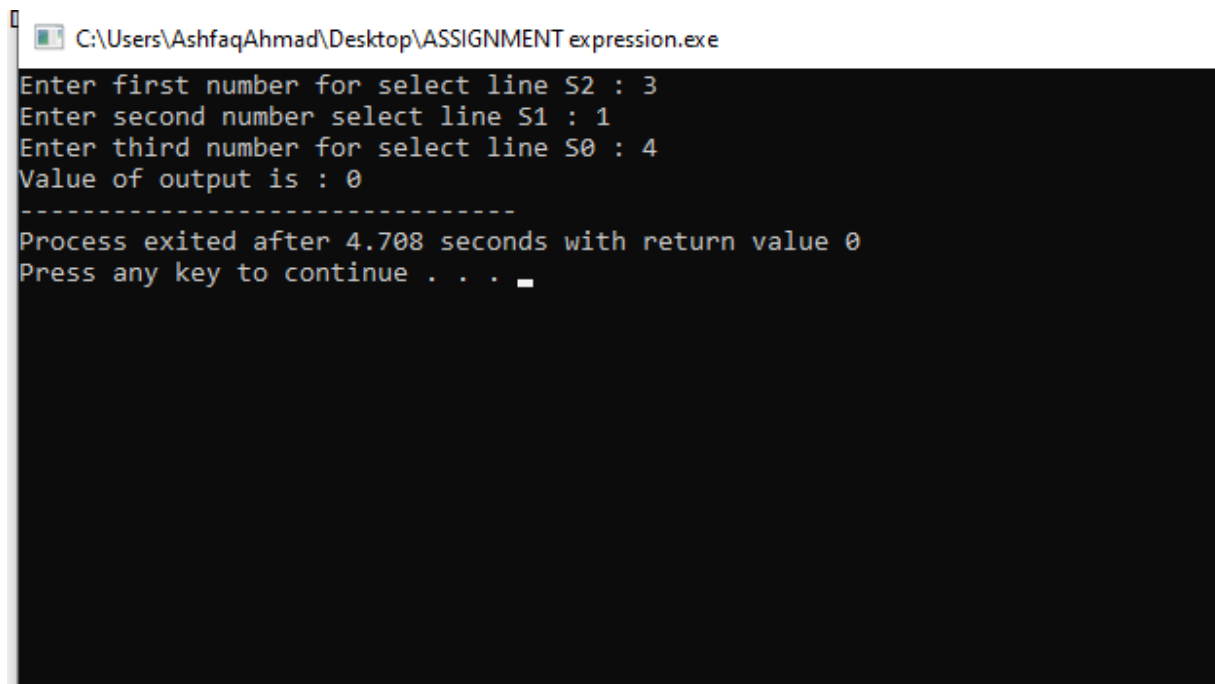
    cout<<"Enter third number for select line S0 : ";
    cin>>S0;

    Y =
(I0&(~S2)&(~S1)&(~S0))|(I1&(~S2)&(~S1)&S0)|(I2&(~S2)&S1&(~S0))|(I3&(~S2)&S1&S0)|(I4&
S2&(~S1)&(~S0))|(I5&S2&(~S1)&S0)|(I6&S2&S1&(~S0))|(I7&S2&S1&S0);

    cout<<"Value of output is : "<<Y;

    return 0;
}
```

## Compilation:



A screenshot of a Windows command prompt window. The title bar at the top reads "C:\Users\AshfaqAhmad\Desktop\ASSIGNMENT expression.exe". The command prompt displays the following text: "Enter first number for select line S2 : 3", "Enter second number select line S1 : 1", "Enter third number for select line S0 : 4", and "Value of output is : 0". A dashed line separates this from the next line, which says "Process exited after 4.708 seconds with return value 0". The final line is "Press any key to continue . . .", followed by a small black square cursor.

```
C:\Users\AshfaqAhmad\Desktop\ASSIGNMENT expression.exe
Enter first number for select line S2 : 3
Enter second number select line S1 : 1
Enter third number for select line S0 : 4
Value of output is : 0
-----
Process exited after 4.708 seconds with return value 0
Press any key to continue . . .
```

---

The end