

9.Half adder:

```
#include <stdio.h>

#include <conio.h>


typedef char bit;

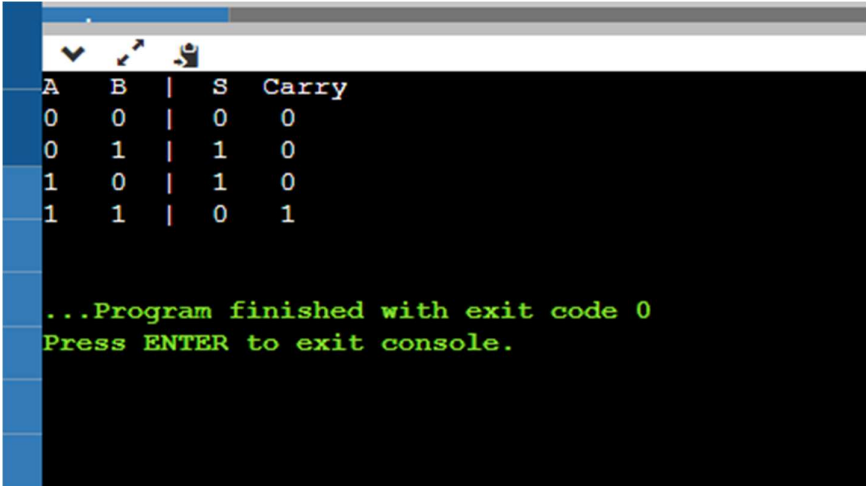
bit carry=0;

bit halfadd(bit A,bit B){
    carry=A&B;
    return A^B;
}

int main()
{
    int i,j,result;

    printf("A  B | S Carry\n");
    for(i=0;i<2;i++)
    {
        for(j=0;j<2;j++)
        {
            result=halfadd(i,j);
            printf("%d  %d | ",i,j);
            printf("%d  %d\n",result,carry);
        }
    }
    return 0;
}
```

Output;



A terminal window with a dark background and a light blue sidebar on the left. The window title bar is visible at the top. The content shows a truth table for XOR and carry calculation. The table has four rows of data and one header row. The columns are labeled A, B, S, and Carry. The first row is the header, and the following three rows are the data rows. The values for S and Carry are calculated based on the values of A and B.

A	B	S	Carry
0	0	0	0
0	1	1	0
1	0	1	0
1	1	0	1

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