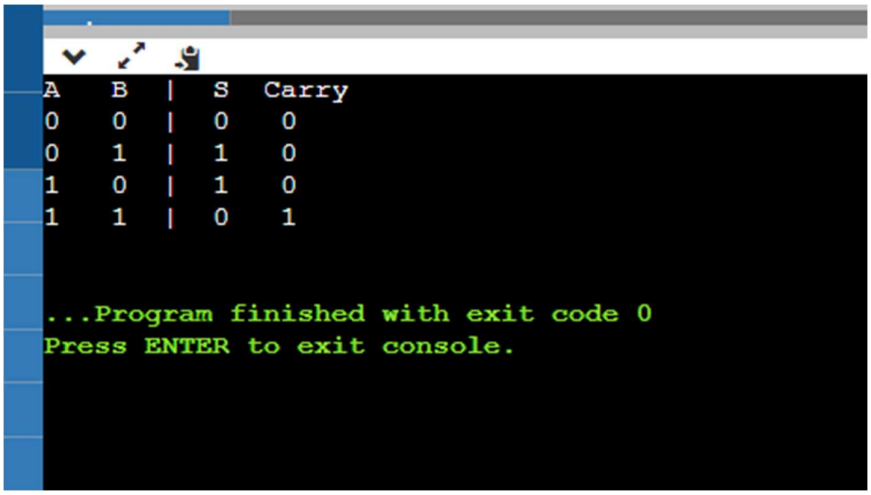
9.Half adder:

```
#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 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.