

1A) HelloWorld.java

Source:

```
public class HelloWorld{  
    public static void main(String[] wow){  
        System.out.println("Hello World!!!!");  
    }  
}
```

Screenshot:

```
$javac HelloWorld.java
```

```
$java -Xmx128M -Xms16M HelloWorld
```

```
Hello World!!!!
```

Directory listing:

Compiled and written on https://www.tutorialspoint.com/compile_java_online.php

File name: HelloWorld.java

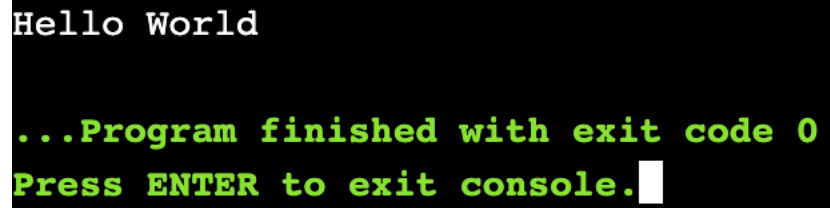
1B) HelloWorld.c

Source:

```
#include <stdio.h>
```

```
int main()  
{  
    printf("Hello World");  
  
    return 0;  
}
```

Screenshot:



```
Hello World

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

Directory listing:

Compiled and written on https://www.onlinegdb.com/online_c_compiler

File Name: HelloWorld

1C) Java Vs. C

The reason why Java needs to be run with the java command is because the java compiler 'javac' does not compile source code into machine code; however, it converts source code into Bytecode which is then further compiled by the java command. The java command runs a class loader, bytecode verifier and then JIT Compiler in a JVM to finally produce machine code which is then run on the machine to produce "Hello World". The C compiler compiles machine code therefore it does not need to be further compiled and can be run by just entering the file name.

2) digitOnes.c

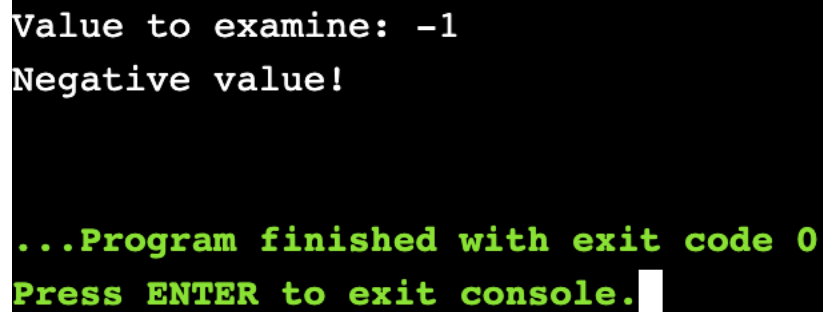
Source:

```
{
    int value;
    int iErr;
    printf("Value to examine: ");
    iErr = scanf("%d",&value);
    if(iErr != 1){
        printf("Unable to read the value\n");
        return 0;
    }
    else if(value < 0){
        printf("Negative value!\n");
        return 0;
    }
    int ones = 0;

    while(value > 0)
    {
        if(value == 1){
            ones++;
            value = -1;
        }
    }
}
```

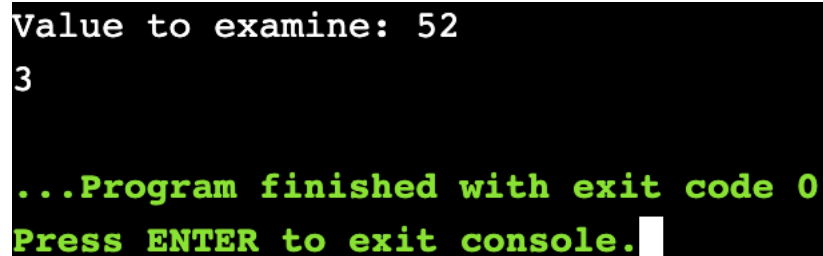
```
    }  
    if(value%2 > 0){  
        ones++;  
        value = value/2 - 0.5;  
    }  
    else{  
        value = value/2;  
    }  
}  
  
printf("%d", ones);  
return 0;  
  
}
```

Screenshots:



A terminal window with a black background. The text is displayed in a monospaced font. The first two lines are white: "Value to examine: -1" and "Negative value!". The next two lines are green: "...Program finished with exit code 0" and "Press ENTER to exit console." followed by a white cursor block.

```
Value to examine: -1  
Negative value!  
  
...Program finished with exit code 0  
Press ENTER to exit console.█
```



A terminal window with a black background. The text is displayed in a monospaced font. The first two lines are white: "Value to examine: 52" and "3". The next two lines are green: "...Program finished with exit code 0" and "Press ENTER to exit console." followed by a white cursor block.

```
Value to examine: 52  
3  
  
...Program finished with exit code 0  
Press ENTER to exit console.█
```

```
Value to examine: hi :)  
Unable to read the value
```

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

```
Value to examine: 7  
2
```

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

Directory listing:

Compiled and written on https://www.onlinegdb.com/online_c_compiler

File name: digitOnes