# Exercise – Do While

1) **For what kind of looping situations is a 'do' usually preferable to 'while'**
"Do" is usually preferable to "while" in situations when you want the code to at least execute once even if the condition is false.

2) **What would be written by the program fragment shown below if it were given the following input sequence?**

**-5**
**0**
**26**

```
System.out.println("How many items to add?");
do
{
        howMany = In.nextInt();
        if (howMany <= 0)
                System.out.println("Give me a positive value.");
}
while (howMany <= 0);
```

| Memory | Output |
|---|---|
| howMany=-5<br>howMany=0<br>howMany=26 | Give me a positive value<br>Give me a positive value |

3) **Write a program that will continually prompt the user for an integer and print that integer out. The program will continue until the integer -1000 is entered.**

```
Scanner input = new Scanner(System.in);
int integer;
do {
        System.out.println("Enter integer:");
        integer = input.nextInt();
        System.out.println("Your integer was " + integer);
}
while (integer!=-1000);
```

4) **Write a program that will continually output the following prompt: "Continue? Enter no to stop". For each prompt, this program will get a response from the user and output that response. This program will continue until 'no' is entered.**

```
Scanner input = new Scanner(System.in);
```

```
String response;
do {
	System.out.println("Continue? Enter no to stop");
	response = input.nextLine();
	System.out.println("Your response was " + response);

}
while (response.equals("yes"));
```

5) **Write a program fragment that asks the user to supply a string , repeatedly rejecting responses until the user gives the string "excellent".**

```
Scanner input = new Scanner(System.in);
String string,response;
 do {
	System.out.println("Supply a string:");
	string = input.next();
}
while (!string.equals("excellent"));
```

6) **Write a program that continually prompts the user for an ID number and a password, both of type string. This program will determine if the username and password match "12345" and "pass" respectively. If they match, output the message "Identity confirmed!". The user will be prompted again until after the third chance, at which point the program will output "access denied".**

```
Scanner input = new Scanner(System.in);
String ID,password;
int chances;
chances = 3;
do {
	System.out.println("Enter ID number:");
	ID = input.nextLine();
	System.out.println("Enter password:");
	password = input.nextLine();
	chances = chances-1;
	if (chances<=0) {
		System.out.println("Access denied");
	}
	if (ID.equals("12345") && password.equals("pass") &&
chances!=0) {
		System.out.println("Identity confirmed");
	}
  }
	while (!ID.equals("12345") && !password.equals("pass") &&
chances!=0);
```

7) **Write a cash register program that continuously prompts for prices until a negative price is entered. Calculate and print the total. Print the number of items that were purchased**

```
Scanner input = new Scanner(System.in);
	double price,total;
	total=0;
```

```
            do {
                  System.out.println("Enter price:");
                  price = input.nextInt();
                  total=total+price;
                  if (price<0) {
                        System.out.println("Total: $" + (total-
price));
                  }
            }
          while (price>=0);
```

8) **Write a program that prompts the user for a username and a password. If the username is "000000" and the password is "password", output the string "access granted", otherwise output "access denied, you have X more attempts" where X is the number of attempts at entering a correct username/password. The program will continue to prompt the user for the above information for three more times OR until the information is correct.**

```
Scanner input = new Scanner(System.in);
            String username,password;
          int X;
          X=3;
          do {
            System.out.println("Enter username:");
            username = input.nextLine();
            System.out.println("Enter password:");
            password = input.nextLine();
            X=X-1;
              if (username.equals("000000") &&
password.equals("password") && X!=0) {
                  System.out.println("Access granted");
                  break;
            }
              else if (X==0) {
                  System.out.println("You had three chances to input
correct username/password");
                  break;
            }
              else if (!username.equals("000000") &&
!password.equals("password") ){
                  System.out.println("Access denied");
              }
          }
            while (!username.equals("000000") &&
!password.equals("password") );
```

9) **Write a program that first forces the user to supply a positive integer and then prints the number and the sum of its digits.**
**(Hint: there are two loops in this question – 1 while, 1 do-while)**
**(Hint: use the % and / operators to find the sum of the digits)**

| **Sample Output** |
|---|
| **Enter a number: -1123**<br>**Enter a number: -3412** |

**Enter a number 234**
**234**
**The sum of the digits is: 9**

```
        Scanner input = new Scanner(System.in);
        int integer,sum,mod;
        sum=0;
        do {
               System.out.println("Enter integer:");
               integer=input.nextInt();

        }
    while (integer<=0);{

    }
    int length = String.valueOf(integer).length();
    while (length>0){
           String number = String.valueOf(integer).substring(0,length);
           int value = Integer.parseInt(number);
           mod = value%10;
           sum=sum+mod;
           length=length-1;
         }
    System.out.println("The sum of " + integer + " is " + sum);
```