

CIS1068, Program Design and Abstraction

Name(print)_____ Student Number_____

a. Write a program to print out the result of $1+2+3+4+5+\dots+10$.

```
int total = 0;
int c = 0;
while(c<10)
{
total = _____;
c = c +1;
}
System.out.println(total);
```

```
int total = 0;
int c = 1;
while(_____)
{
total = total + c ;
c = c +1;
}
System.out.println(total);
```

```
int total = 1;
int c = 1;
while(c<10)
{
total = _____ ;
c = c +1;
}
System.out.println(total);
```

```
int total = 1;
int c = 0;
while(_____)
{
total = total + c+2;
c = c +1;
}
System.out.println(total);
```

- b. Write a loop to print out the first 10 prime numbers larger than 1000. A number is "prime" if its only factors are 1 and itself. A "factor" is a number that divides another number evenly.

```
int n = _____;

for (int i = 0; i < _____; _____) {

    int f = _____;

    for (_____; f < n && n % f != 0 ; _____);

    if (_____){
        System.out.println(n);
        i++;
    }
}
```

- c. Write a program to print out the next perfect number after 6. A number is "perfect" if it is equal to the sum of all of its factors (not including itself as a factor, but including 1 as a factor). 6 is the first perfect number, because its factors are 1, 2, and 3, and $1+2+3 = 6$.

```
int n = _____, total, factor;

for (_____; total != n++; _____) {

    total = _____;

    for (_____; factor < n; factor++)
        if (n % factor == 0)
            _____;
}

System.out.println("Next perfect number is "+ _____);
```