**ASSIGNMENT 1**

Q1) Check if the given number is EVEN or ODD.

1. Start

2. Read n

3. if (n%2==0)

{ print = n + "is Even number" }

else { print = n +is Odd number" }

4. Stop

Q2) Write a Java Program to find the Factorial of a given number.

1. Start

2. Read n

3. n!=0

4. print n\*(n-1)\*(n-2)\*(n-3)\*(n-4)......((n-(n-1))

5. stop

Q3) Find the Factorial of a number using Recursion.

1. Start

2. Read n, f

3. Call f=factorial(n)

4. Print f

5. Stop

In factorial(n)

1. If n==1 { return 1 }

2. Else

{ f=n\*factorial(n-1) }

3. Return f

Q4) Swap two numbers without using the third variable approach.

1. Start

2. Read a, b

3. Print a, b //Will print before swapping numbers

4. a=a+b;

5. b=a-b;

6. a=a+b;

7. Print a, b //Will print numbers after swapping

8. Stop

Q5) How to check whether the given number is Positive or Negative in Java?

1. Start

2. Read n

3. if (n>0)

print = n + "is Position number"

else if (n<0)

print = n + "is Negative number"

else

print = n + "is neither positive nor negative"

4. stop

Q6) Write a Java Program to find whether a given number is Leap year or NOT.

1. Start

2. Read year

3. if (year%4==0) || year%400==0)

{ print = "Leap year" }

else { print = "Not leap year" }

4. Stop

Q7) Write a Java Program to Print 1 To 10 Without Using Loop

1. Start

2. Read n=1

3. println n, n+1, n+2, n+3, n+4, n+5, n+6, n+7, n+8, n+9

4. stop

Q8) Write a Java Program to print the digits of a Given Number.

1. Start

2. Read num

3. If (num!=0) { //if num=0, go to step 5

digit=num%10

num=num/10

print digit }

4. Repeat Step 3 till all digits are printed

5. Stop

Q9) Write a Java Program to print all the Factors of the Given number.

1. Start

2. Read num //input number

3. initialize i to 1

4. While i<=num {

do steps 5-7

If num/i { print i }

Increment i++

End the loop

5. Stop

Q10) Write a Java Program to find the sum of the digits of a given number.

1. Start

2. Read num

3. If (num!=0) { //if num=0, go to step 6

digit=num%10

sum=sum+digit

num=num/10

}

4. Repeat Step 3

5. print sum

6. Stop

Q11) Write a Java Program to find the smallest of 3 numbers (a,b,c)

1. start

2. Read a, b,c

3. if (a<b && a<c)

print (a + "is smallest number")

else if (b<a && b<c)

print (b + "is smallest number)

else if (c<a && c<b)

print (c + "is smallest number")

else print ("One or more numbers are equal")

4. Stop

Q12) How to add two numbers without using the arithmetic operators in Java?

1. Start

2. Read a, b

3. Initalize i, c, sum

4. i=0, c=a

5. if (i<b)

{

a++

i++

}

else {

sum=a;

a=c;

print sum;

6. End

Q13) Write a java program to Reverse a given number.

1. Start

2. Read num

3. Initialize reverse=0

4. while num > 0:

digit=num%10

reverse=(reverse\*10)+digit

num=num/10

5. print("Reverse of given number is:"+ rev)

6. Stop

Q14) Write a Java Program to find the GCD of two given numbers.

1. Start

2. Read num1, num2

3. Initialize a, b

4. a=Math.max(num1, num2)

5. b=Math.min(num1, num2)

6. Initialize c

7. while (b!=0){

c=a%b;

a=b;

b=c;

}

8. print("GCD is "+ a);

9. Stop

Q15) Write a java program to LCM of TWO given numbers.

1. Start

2. Read num1, num2

3. Initialize a, b, lcm

4. a=Math.max(num1, num2)

5. b=Math.min(num1, num2)

6. Initialize c

7. while (b!=0){

c=a%b;

a=b;

b=c;

}

8. lcm=(num1\*num2)/a

9. print ("LCM is " + lcm)

10. Stop

Q17) Check whether the Given Number is a Palindrome or NOT.

1. Start

2. Read num

3. Initialize original, rev

4. original=num

5. // To reserve the digits of num and store in rev

rev=0;

for (int i = num; i > 0; i /= 10)

{ rev = (rev \* 10) + (i % 10);

}

6. if (original==rev) {

print(original+" is a palindrome"); }

else {

print(original+ "Not a palindrome);

7. STop

Q18) Write a Java Program to print all the Prime Factors of the Given Number.

1. Start

2. Read num

3. if (num<2)

print("Error, not a prime number)

return }

4. initialize i=2

5. //If i is a factor of num, will print i and then divide num by i.

//else increment i++

print("Prime factors of " + num + " are:");

while (num > 1) {

if (num % i == 0)

{

println(i)

n=n/i

}

else {

i++;

}

6. Stop

Q19) To print the following series EVEN number Series 2 4 6 8 10 12 14 16 .....

1. Start

2. Initialize i

3. for(i=2; i<=100; i++)

{ print(i + " ")

i++

}

4. Stop

Q20) To print the following series ODD number Series 1 3 5 7 9 11 13...

1. Start

2. Initialize i

3. for(i=1; i<=100; i++)

{ print(i + " ")

i++

}

4. Stop