**Coding**

**C++**

1.Given a random array of numbers. How do you sort them? Select any sorting algorithm and write the pseudo code. (C++)

* **Ans** I implemented Merge Sort with merge subroutine I forgot base case ,I added later
* 2. 1/8th of a circle. (NS)
* **Ans** I gave semi optimum solution.There was a better way without using trignometric functions(C++)
* 2.Given inheritence hierarchy -which of the following is valid?(C)

A

/ \

B C

/

D

void alpha(B \*arg)

A\*Aptr =new A;

B\*Bptr=new B;(valid)

C\* Cptr=new C;

D\*Dptr=new D;(valid)

* 3.What does the following line of code do?(C)

char\*c ="Hello"

char d[6];

while(\*c++=\*d++);

Hacker rank:

What is output of:-

for i=1:5

print i;

if i==2

i=i+7;

end

end

Static variables in constructors:

class A

{

public:

static int a;

A()

{ a++;}

void foo(){cout<<a;}

};

int A::a=0;

int main(){ A a1,a2,a3; a1.foo();a2.foo();a3.foo();return 0;}

What is the output of the following code?

int main () {

int \*arr = new int[5];

for (int idx = 0; idx < 5; ++idx) {

arr[idx] = idx;

cout << \*(idx + arr) \* 2 <<” “;

}

cout<<endl;

delete arr;

return 0;

}

Python was easier.

Gave me a code snippet.

S="Joyce"

S[0] ="K"

print S

4 Hierarchy - All are publicly derived

A

/ \

B C

/

D

Which one is valid

void alpha(B\* arg);

i)) A \*pa = new A;

alpha(pa)

ii) B \*pb = new B;

alpha(pb)

iii) C \*pc = new C;

alpha(pc)

iv) D \*pd = new D;

alpha(pd)

(ii) and (iv) are valid because D is publicly derived

5) Draw 1/8 th of a circle.

6) typedef - code snippet to explain the concept

Ans -typedef you can create your own datatype names - Ex- typedef int height.

Shown code to find errors or outputs

char c[] = {'a','b','c','d','e','f'};

char d[6];

while(\*d++ = \*c++);

class Test{

public:

static int count;

Test(){

count++;

}

}

Test::count = 0;

Test t1;

Test t2;

Test t3;

cout << t1.count << t2.count << t3.count << endl;

Given a function

int myfunc(B\* obj){

//Does something

}

Asked which of the following calls are valid given the following hierarchy

A

/ \

B C

/

D

B\* b = new B;

D\* d = new D;

A\* a = new A;

C\* c = new C;

myfunc(b)

myfunc(d)

myfunc(c)

myfunc(a)

JAVA

A program which tried to remove star along with character preceding and succeeding it. Something like

String s = “abcsd\*sdfsdf\*asd”;

String t = “”

for(int I =0; i< s.length(); i++){

String temp = s.charAt(i);

if(temp == ‘\*’){

//Some erroneous code trying to blank out character at i-1 and i+1

//and making t = s

}

}

System.out.println(t);

A Code on Multi-threading

Class MyThread extends Thread{

int myNum;

static int count;

Mythread(int i){

super();

count++;

myNum = i;

}

public void run(){

System.out.println(“Count is”+count +”MyNum is”+myNum);

}

Public static void main(String args[]){

for(int i =0; i <4; i++){

MyThread mt = new MyThread(i);

mt.start();

}

}

}

Code Garbage collection

Which of these objects are eligible for garbage collection

class Test{

Test obj;

}

class Main{

public static void main(String args[]){

Test t1 = new Test();

Test t2 = new Test();

Test t3 = new Test();

t1.obj = t2;

t2.obj = t3;

t3.obj = t1;

t1= null;

t2 = null;

t3 = null;

}

}