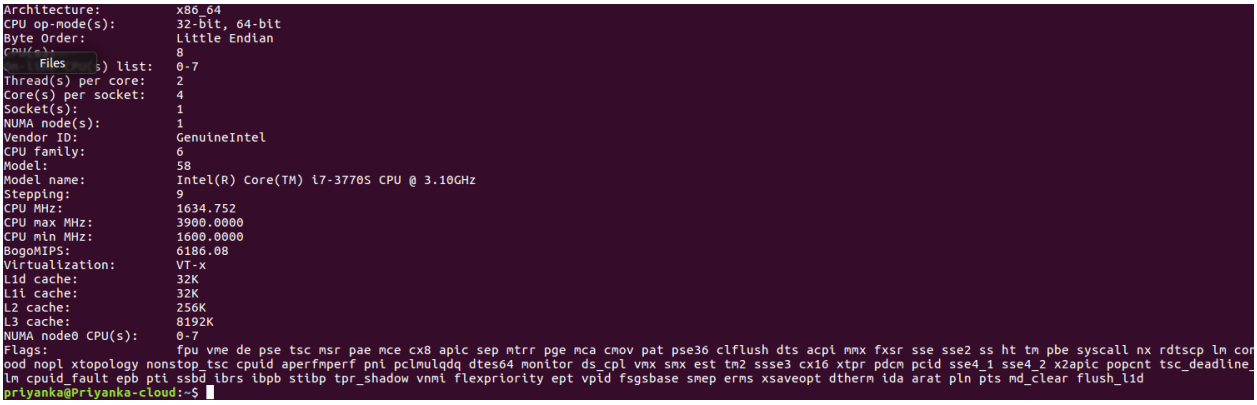
Department of Computer Engineering
B.E II Year
CO24009:Computer Architecture
Assignment-1

1)Write down the specifications(ex. Cores,Memory,Architecture etc..) of your system with the screenshot of the specfication and its explaination(what each term is representing).Explaination should be handwritten



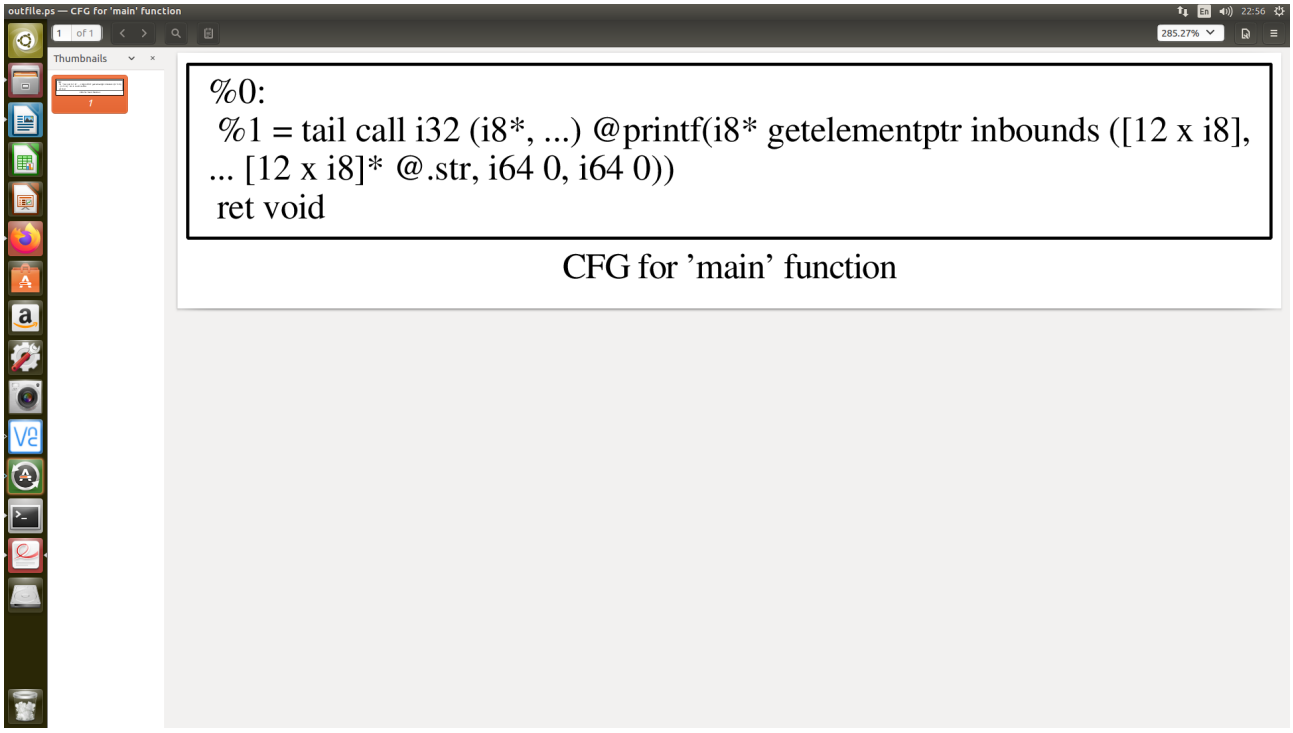
2)What is the speed of the processor of your system.

3)What is the byte order used in your system and what does it represent.

4)What is the range of numbers you can store in your system.(minimum number after which underflow takes place and maximum number after which overflow takes place) with the screenshot and explaination of the experiment.

5)Write a simple Hello World program.

- Compile the program using following command.To generate bytecode
  - clang -O3 -emit-llvm Hello.c -c -o Hello.bc
- Generate control flow graph using following command
  - opt --view-cfg Hello.bc



```
%!PS-Adobe-3.0
%%Creator: graphviz version 2.38.0 (20140413.2041)
%%Title: CFG for 'main' function
%%Pages: (atend)
%%BoundingBox: (atend)
%%EndComments
save
%%BeginProlog
/DotDict 200 dict def
DotDict begin

/setupLatin1 {
mark
/EncodingVector 256 array def
 EncodingVector 0

ISOLatin1Encoding 0 255 getinterval putinterval
EncodingVector 45 /hyphen put

% Set up ISO Latin 1 character encoding
/starnetISO {
        dup dup findfont dup length dict begin
        { 1 index /FID ne { def }{ pop pop } ifelse
        } forall
        /Encoding EncodingVector def
        currentdict end definefont
} def
/Times-Roman starnetISO def
/Times-Italic starnetISO def
/Times-Bold starnetISO def
/Times-BoldItalic starnetISO def
/Helvetica starnetISO def
/Helvetica-Oblique starnetISO def
```

```
/Helvetica-Bold starnetISO def
/Helvetica-BoldOblique starnetISO def
/Courier starnetISO def
/Courier-Oblique starnetISO def
/Courier-Bold starnetISO def
/Courier-BoldOblique starnetISO def
cleartomark
} bind def

%%BeginResource: procset graphviz 0 0
/coord-font-family /Times-Roman def
/default-font-family /Times-Roman def
/coordfont coord-font-family findfont 8 scalefont def

/InvScaleFactor 1.0 def
/set_scale {
       dup 1 exch div /InvScaleFactor exch def
       scale
} bind def

% styles
/solid { [] 0 setdash } bind def
/dashed { [9 InvScaleFactor mul dup ] 0 setdash } bind def
/dotted { [1 InvScaleFactor mul 6 InvScaleFactor mul] 0 setdash } bind def
/invis {/fill {newpath} def /stroke {newpath} def /show {pop newpath} def} bind
def
/bold { 2 setlinewidth } bind def
/filled { } bind def
/unfilled { } bind def
/rounded { } bind def
/diagonals { } bind def
/tapered { } bind def

% hooks for setting color
/nodecolor { sethsbcolor } bind def
/edgecolor { sethsbcolor } bind def
/graphcolor { sethsbcolor } bind def
/nopcolor {pop pop pop} bind def

/beginpage {     % i j npages
      /npages exch def
      /j exch def
      /i exch def
      /str 10 string def
      npages 1 gt {
            gsave
                  coordfont setfont
                  0 0 moveto
                  (\() show i str cvs show (,) show j str cvs show (\)) show
            grestore
      } if
} bind def

/set_font {
      findfont exch
      scalefont setfont
} def

% draw text fitted to its expected width
/alignedtext {                % width text
      /text exch def
      /width exch def
      gsave
            width 0 gt {
```

```
                [] 0 setdash
                text stringwidth pop width exch sub text length div 0 text
ashow
            } if
      grestore
} def

/boxprim {                  % xcorner ycorner xsize ysize
            4 2 roll
            moveto
            2 copy
            exch 0 rlineto
            0 exch rlineto
            pop neg 0 rlineto
            closepath
} bind def

/ellipse_path {
      /ry exch def
      /rx exch def
      /y exch def
      /x exch def
      matrix currentmatrix
      newpath
      x y translate
      rx ry scale
      0 0 1 0 360 arc
      setmatrix
} bind def

/endpage { showpage } bind def
/showpage { } def

/layercolorseq
      [     % layer color sequence - darkest to lightest
            [0 0 0]
            [.2 .8 .8]
            [.4 .8 .8]
            [.6 .8 .8]
            [.8 .8 .8]
      ]
def

/layerlen layercolorseq length def

/setlayer {/maxlayer exch def /curlayer exch def
      layercolorseq curlayer 1 sub layerlen mod get
      aload pop sethsbcolor
      /nodecolor {nopcolor} def
      /edgecolor {nopcolor} def
      /graphcolor {nopcolor} def
} bind def

/onlayer { curlayer ne {invis} if } def

/onlayers {
      /myupper exch def
      /mylower exch def
      curlayer mylower lt
      curlayer myupper gt
      or
      {invis} if
} def
```

```
/curlayer 0 def

%%EndResource
%%EndProlog
%%BeginSetup
14 default-font-family set_font
1 setmiterlimit
% /arrowlength 10 def
% /arrowwidth 5 def

% make sure pdfmark is harmless for PS-interpreters other than Distiller
/pdfmark where {pop} {userdict /pdfmark /cleartomark load put} ifelse
% make '<<' and '>>' safe on PS Level 1 devices
/languagelevel where {pop languagelevel}{1} ifelse
2 lt {
    userdict (<<) cvn ([) cvn load put
    userdict (>>) cvn (]) cvn load put
} if

%%EndSetup
setupLatin1
%%Page: 1 1
%%PageBoundingBox: 36 36 469 136
%%PageOrientation: Portrait
0 0 1 beginpage
gsave
36 36 433 100 boxprim clip newpath
1 1 set_scale 0 rotate 40 40 translate
0 0 0 graphcolor
14 /Times-Roman set_font
147 7.8 moveto 131 (CFG for 'main' function) alignedtext
% Node0xeb7670
gsave
1 setlinewidth
0 0 0 nodecolor
newpath 0 23.5 moveto
0 91.5 lineto
425 91.5 lineto
425 23.5 lineto
closepath stroke
0 0 0 nodecolor
14 /Times-Roman set_font
8 76.3 moveto 23 (%0:) alignedtext
0 0 0 nodecolor
14 /Times-Roman set_font
8 61.3 moveto 409 ( %1 = tail call i32 \(i8*, ...\) @printf\(i8* getelementptr
inbounds \([12 x i8],) alignedtext
0 0 0 nodecolor
14 /Times-Roman set_font
8 46.3 moveto 183 (... [12 x i8]* @.str, i64 0, i64 0\)\)) alignedtext
0 0 0 nodecolor
14 /Times-Roman set_font
8 31.3 moveto 46 ( ret void) alignedtext
grestore
endpage
showpage
grestore
%%PageTrailer
%%EndPage: 1
%%Trailer
%%Pages: 1
%%BoundingBox: 36 36 469 136
end
restore
```

%%EOF