

```
1
2 1.variables :
3     storing a data elements
4 declare a variable :
5     syntax :
6         variable_name = value(int/flaot/char/
    string/boolen...)
7         eg:
8             arjun=123    #integer
9             _a="arjun"  #string
10            a_variable=1.2 # floating
11 a=123
12 print(a)
13
14 b="arjun"
15 print(b)
16 c=10.2
17 print(c)
18 j=1+0j
19 print(j)
20 t=a=b
21 print(t)
22
23 # type cheaking
24 x=type(a)
25 print(x)
26
27 y=type(b)
28 print(y)
29
30 z=type(c)
31 print(z)
32
33 p=type(j)
34 print(p)
35
36 s=type(t)
37 print(s)
38
39
40
```

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41
42 -----
43 -----
44
45
46
47 2.Datatypes :
48     1.Numbers:
49         1.integer
50
51         1.boolen
52     2.Float
53     3.Complex
54 2.None
55 3.Sequence
56     1.List
57     2.Tuple
58     3.String
59 4.Set
60 5.Mapping
61     1.Dictionary
62 -----
63 -----
64 l=[]
65 date=[]
66 for i in range(1):
67     x=input("Enter a name :")
68     d=int(input("Enter a date "))
69     e=input("Enter a village Name:")
70     f=input("Enter a reason : ")
71     l.append(x)
72     date.append(d)
73     l.append(e)
74     for a in l:
75         print("Hello Sir I am {}.From {} . \n Leave
Reason: {}\nLeave Date {}".format(x,e,f,d))
76
77
78 *** List :
```

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79     Notes :
80         1.collection of unordered list of elements .
81         2. List is mutable / can change
82         3. List enclosed by []
83         4. support mixed_datatype
84     List Functions :
85         1.len()
86         2.max()
87         3.min()
88         4.append()
89         5.insert()
90         6.index()
91         7.cmp() #comparison function >> not support
    in python_3
92         9.remove()
93         10.sort()
94         11.pop()
95         12.delete()
96
97 -----
98 #programs :
99 l=[]
100 x=int(input("Enter a size of list : "))
101 for i in range(x):
102     x=input("Enter a value to insert a list :")
103     l.append(x)
104 print("original list is : ",l)
105
106 # length of lent using len()
107 print("Length of list is : ",len(l))
108
109 #maximum value of length is using max()
110 print("Maximum value of list is ",max(l))
111
112 #minimum value of length is using min()
113 print("Maximum value of list is ",min(l))
114
115 #decending order print using sort()
116 l.sort(reverse=True)
117 print("Reverse order printing is :",l)
118

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119 # counting data in list // (how many time reapet
    data)
120 z=input("Enter a value to count ")
121 y=l.count(z)
122 print("Counting data is ",y)
123
124 # Acessing data index
125 z=input("Enter a data name who index you want: ")
126 index=l.index(z)
127 print(z,"found at position index is :",index)
128
129 # inserting element to list
130 u=input("Enter value to enter into list: ")
131 index=int(input("Enter a index you want to add data
    : "))
132 l.insert(index,u)
133 print(l)
134
135 # remove data in list
136 val=input("Enter a data name to remove list: ")
137 l.remove(val)
138 print(l)
139
140 # pop() using last element delete/pop
141
142 print("poped value : ",l.pop())
143 print(l)
144
145 # Delete()
146 print(l.del())
147
148 # Python Slicing(cutting)
149 l=[]
150 c=int(input("Enter a number you want to run your
    loop : "))
151 for i in range(c):
152     x=input("Enter a data to add list : ")
153     l.append(x)
154
155 print("Original list is :",l)
156 print("reverse list is ",x[::-1])
```

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157 print(l[:])
158 print(l[0:])
159 print(l[0:1])
160 print(x[::-1])
161
162
163
164 # Project: Student_management_system
165 while True :
166     print("1.login\n2.Register\n3.Delete_Account\n4.
Exit")
167     ch=int(input("Enter a choice :"))
168     if ch==1:
169         l=[]
170         l1=[]
171         x=int(input("how many time you execute:"))
172         for i in range(x):
173
174             x=input("Enter a Student_Name: ")
175             y=input("Enter a Password : ")
176             l.append(x)
177             l1.append(y)
178             print(l,l1)
179             if x=='arjun' and y=="123":
180                 import webbrowser
181                 webbrowser.open("login.html",'r')
182             else:
183                 print("Try Again")
184         elif ch==2:
185             import webbrowser
186             webbrowser.open('login.html','r')
187         elif ch==3:
188             x = input("Enter a Student_Name: ")
189             y = input("Enter a Password : ")
190             import webbrowser
191             webbrowser.open("delete.html",'r')
192         if ch==4:
193             exit()
194
195 #tuple:
196

```

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197 notes :
198     1.tuple is immutable /cannot change
199     2.enclosed by comma_seprated round bracket ()
200     3.support multiple/mixed datatype
201
202 tuple=(1,2)
203 #printing Type
204 print(type(tuple))
205 print(tuple[1])
206 #not possible :
207 #x=tuple[1]="arjun"
208 #print(x)
209 #tranversing
210 tuple=(1,2,3,4,5)
211 for i in tuple:
212     print(i)
213
214 #change value of tuple
215 x=("arjun",123,1023)
216 y=list(x)
217 y[1]="samadhan"
218 #x=tuple(y)
219 print(x)
220
221 t=tuple()
222 print(t)
223
224
225 conditional statements :
226     1.if statement
227         syntax:
228             if condition:
229                 statements
230
231     # -----
232
233     2.if else statement
234         syntax:
235             if condition:
236                 statements
237             else:

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238             statemnts
239             -----
240
241     3.if elif else statement
242         syntax:
243             if condition:
244                 statements
245             elif condition:
246                 statements
247             else:
248                 statements
249             -----
250 -----
251     ----
252     #programs
253     while True:
254         x=int(input("Enter a number : "))
255         if x<=0:
256             print("Small Number")
257
258         elif (x%2)== 0:
259             print("Entered Number is Even")
260
261         elif (x%2) != 0:
262             print("Entered number is ODD")
263
264         else:
265             print("Valid Input")
266             print("1.Continue\n2.exit")
267             #create choice variable
268             ch=int(input("Enter your choice : "))
269             if ch==2:
270                 break
271
272
273
274     #program02 : leaf year or not
275     while True:
276         year=int(input("Enter a year :"))
277         if(year % 4)==0:

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278         if (year%100)==0:
279             if (year%400):
280                 print("{0} is a leap year".format(
year))
281             else:
282                 print("{0} is not leap year".format(
year))
283         else:
284             print("{0} is a leap year".format(year))
285     else:
286         print("{0} is not leap year".format(year))
287
288
289 a=input("Enter a name: ")
290 if (a=='arjun'):
291     x=int(input("Enter a sixe to print name"))
292
293     # Create for loop for_print name many_time
294
295     for i in range(x):
296         print("{}".format(a*i)) #print output in
multiple times
297 else:
298     print("try again")
299
300
301 #program to print entred number :
302
303 x=input("Enter a name :")
304 if x=='arjun':
305     print("Entered name is :{}".format(x))
306
307
308
309 loops:
310     1.while loop
311         While Statements
312         Its syntax is:
313             while condition:
314                 statements
315             else:

```



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316 statements
317
318
319 2.for loop
320     Its Syntax is
321     for TARGET- LIST in EXPRESSION-LIST:
322         STATEMENT BLOCK 1
323     [else: # optional block
324         STATEMENT BLOCK 2]
325
326 3.nested while loop
327     Nested loops
328         Block of statement belonging to
while can have another while statement, i.e. a while
can
329     contain another while.
330     Example
331         i=1
332         while i<=3:
333             j=1
334             while j<=i:
335                 print j, # inner while loop
336                 j=j+1 159
337             print
338             i=i+1
339 4.nested for loop
340     Nesting a for loop within while loop can be
seen in following example :
341     Example
342         i = 6
343         while i >= 0:
344             for j in range (1, i):
345                 print j,
346                 print
347 -----
-----
348
349
350 #programs_for while loop
351
352

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```
353 #nested loop examples :
354
355 #program 1: stright order printing number
356
357 i = int(input("Enter a size of number to print : "))
358 while i >= 0:
359     for j in range(1,i):
360         print(j)
361     print()
362     break # note: Try withought break statement
363
364 #program 01: Number reverse order printing
365
366 i = int(input("Enter a size of number to print : "))
367 while i >= 0:
368     for j in range(i,0,-1):
369         print(j)
370     print()
371     break # note: Try withought break statement
372
373
374 x=int(input("Enter a Id :"))
375 print("{}".format(x))
376
377 #Odd / Even number print
378 x=int(input("Enter a number "))
379 while True:
380     for i in range(x==x):
381         if (x%2==0):
382             print("Even Number")
383         else:
384             print("ODD Number")
385
386 x=int(input("Enter a number to calculate Factorial
:"))
387 fac=1
388 i=1
389 while i<=x:
390     fac=fac*i
391     i=i+1
392 print("Factorial of ",x,"is",fac)
```

```
393 #factorial using for loop
394
395
396 x=int(input("Enter a number to calculat factorial: "))
397 factorial=1
398 for i in range(1,x+1):
399     factorial=factorial*i
400 print("Factorial of ",x,"is",factorial)
401
402
403
404 x=int(input("Enter a frist Number : "))
405 y=int(input("Enter a frist Number : "))
406 sum=0
407 while (x,y):
408     sum=x+y
409     print(sum)
410     break
411
412
413 x=int(input("Enter a frist Number : "))
414 y=int(input("Enter a frist Number : "))
415 sum=0
416 for i in x,y:
417     sum=x+y
418 print(sum)
419
420
421
422 l=[]
423 x=int(input("Enter a size of list: "))
424 for i in range (x):
425     x=input("Enter friend Name : ")
426     l.append(x)
427 print(l)
428 for i in l:
429     x=input("Search your friend")
430     print("{} available in friend list:".format(x))
431     break
432
```

```

433
434
435
436
437
438 3.Operator :
439 1.Arithmatical Operator :
440     1.Addition (+)
441     2.subtraction (-)
442     3.Multiplication(*)
443     4.Division(/)
444     5.remainder/Modulo (%)
445     6.integer Division (//)
446 -----
447 -----
448
449 2.Relational Operator:
450     1.< Less than
451     2.> Greater than
452     3.<= less than equal to
453     4.>= greater than equal to
454     5.!=, <> not equal to
455     6.== equal to
456 -----
457 -----
458
459 3.Logical Operators
460
461     1.or
462         If any one of the operand is true, then the
         condition becomes true.
463     2.and
464         If both the operands are true, then the
         condition becomes true.
465     3.not
466         Reverses the state of operand/condition.
467 -----
468 -----
468

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```

469 4.Assignment Operators
470         Assignment Operator combines the effect
      of arithmetic and assignment operator
471         1.=
472         2.+=
473         3.-=
474         4.*=
475         5./=
476         6.//=
477         7.**= #performing exponatial (power)
478         8.%=
479
480 -----
      -----
481
482 #example of operators :
483
484 def input_1():
485     x=int(input("Enter a frist number : "))
486     y=int(input("Enter a second Number : "))
487
488 #Arithmatical operator
489 while True :
490
491     def operator():
492         print("1.add\n2.subtraction\n3.
      Multiplication\n4.Division\n5.Modulo\n6.square")
493         ch=int(input("Enter your valid choice : "))
494         if ch==1:
495             x=int(input("Enter a frist number : "))
496             y=int(input("Enter a second Number : "
      ))
497             sum=x+y
498             print("addition is ",sum)
499         elif ch==2:
500             x = int(input("Enter a frist number : "
      ))
501             y = int(input("Enter a second Number
      : "))
502             sub = x - y
503             print("Subtraction is ",sub)

```

```
504         elif ch==3:
505             x = int(input("Enter a frist number : "
506             ))
507             y = int(input("Enter a secound Number
508             : "))
509             mul= x * y
510             print("multiplication is ",mul)
511
512         elif ch==4:
513             x = int(input("Enter a frist number : "
514             ))
515             y = int(input("Enter a secound Number
516             : "))
517             div = x / y
518             print("Division",div)
519
520         elif ch==5:
521             x = int(input("Enter a frist number : "
522             ))
523             y = int(input("Enter a secound Number
524             : "))
525             mod = x // y
526             print("remender ",mod)
527
528         elif ch==6:
529             x = int(input("Enter a frist number : "
530             ))
531             y = int(input("Enter a secound Number
532             : "))
533             sq= x ** y
534             print("squar root",sq)
535
536         else:
537             print("Enter a valid input")
538
539     print("1.continue\n2.Exit")
540     ch=int(input("Enter your choice: "))
541     if ch==2:
542         break
543
544
545
546 operator()
```

```
537
538 Object Oriented Programming Language [OOP]
539 0.Introduction
540 1.Class
541 2.Object
542 3.Constructor
543 4.Polymorphism
544 5.Inheritance
545
546
547
```