

In [1]:

```
1  import mysql.connector
2  from tabulate import tabulate
3
4  def connect_to_db():
5      try:
6          conn = mysql.connector.connect(
7              host="localhost",
8              user="root",
9              password="password",
10             database="students"
11         )
12         print("Connected to the MySQL database!")
13         return conn
14     except mysql.connector.Error as error:
15         print("Failed to connect to the MySQL database: {}".format(error))
16         return None
17
18 def generate_cutoff_list(conn, merit_pct, sc_pct, st_pct, ews_pct, merit_count, sc_count, st_count, ews_count):
19     try:
20         cursor = conn.cursor()
21         cursor.execute("SELECT * FROM students.st_name")
22         students = cursor.fetchall()
23
24         cutoff_list = []
25
26         merit_students = [student for student in students if student[-2] >= merit_pct]
27         cutoff_list.extend(merit_students[:merit_count])
28
29         sc_students = [student for student in students if student[-1] == 'SC' and student[-2] >= sc_pct]
30         cutoff_list.extend(sc_students[:sc_count])
31
32         ews_students = [student for student in students if student[-1] == 'EWS' and student[-2] >= ews_pct]
33         cutoff_list.extend(ews_students[:ews_count])
34
35         st_students = [student for student in students if student[-1] == 'ST' and student[-2] >= st_pct]
36         cutoff_list.extend(st_students[:st_count])
37
38         return cutoff_list
39
40     except mysql.connector.Error as error:
41         print("Failed to fetch data from the MySQL database: {}".format(error))
42         return []
43
44 def print_cutoff_list(cutoff_list):
45     headers = ["Student ID", "Name", "Total Percentage", "Reservation Category"]
46     table_data = []
47
48     for student in cutoff_list:
49         student_id = student[0]
50         name = student[1]
51         total_pct = student[-2]
52         reservation_category = student[-1]
53         table_data.append([student_id, name, total_pct, reservation_category])
54
55     print("Cutoff List:")
56     print(tabulate(table_data, headers=headers, tablefmt="grid"))
57
58
59 def main():
```

```

60     connection = connect_to_db()
61
62     if connection:
63         merit_pct = float(input("Enter the cutoff percentage for merit category: "))
64         sc_pct = float(input("Enter the cutoff percentage for SC category: "))
65         st_pct = float(input("Enter the cutoff percentage for ST category: "))
66         ews_pct = float(input("Enter the cutoff percentage for EWS category: "))
67         merit_count = int(input("Enter the number of students to include from mer
68         sc_count = int(input("Enter the number of students to include from SC cat
69         st_count = int(input("Enter the number of students to include from ST cat
70         ews_count = int(input("Enter the number of students to include from EWS c
71
72         cutoff_list = generate_cutoff_list(
73             connection,
74             merit_pct,
75             sc_pct,
76             st_pct,
77             ews_pct,
78             merit_count,
79             sc_count,
80             st_count,
81             ews_count
82         )
83
84         print_cutoff_list(cutoff_list)
85
86         connection.close()
87
88     if __name__ == '__main__':
89         main()
90

```

Connected to the MySQL database!

Enter the cutoff percentage for merit category: 95

Enter the cutoff percentage for SC category: 75

Enter the cutoff percentage for ST category: 65

Enter the cutoff percentage for EWS category: 70

Enter the number of students to include from merit category: 50

Enter the number of students to include from SC category: 20

Enter the number of students to include from ST category: 10

Enter the number of students to include from EWS category: 20

Cutoff List:

+-----+-----+-----+-----+			
-+			
Student ID	Name	Total Percentage	Reservation Category
+=====+=====+=====+=====			
=+			
2301170	davender	95	ST
+-----+-----+-----+-----			
-+			
2302118	jaidul	98.75	EWS
+-----+-----+-----+-----			
-+			
2304233	raghuvinder	96	General
+-----+-----+-----+-----			
-+			
2304340	rama	97	ST
+-----+-----+-----+-----			
-+			
2304715	rukshana	95.5	General
+-----+-----+-----+-----			
-+			
2304873	saifali	96.25	ST
+-----+-----+-----+-----			
-+			
2304875	saimun	98.25	EWS
+-----+-----+-----+-----			
-+			
2304880	saizad	96	SC
+-----+-----+-----+-----			
-+			
2304881	sajan	97.75	General
+-----+-----+-----+-----			
-+			
2304882	sajana	97	EWS
+-----+-----+-----+-----			
-+			
2304883	sajda	96.5	EWS
+-----+-----+-----+-----			
-+			
2304884	sajia	97	EWS

-+	2304885 sajid		96.25 EWS
-+	2304886 sajida		99.75 EWS
-+	2304887 sajini		97.75 EWS
-+	2304888 sajiya		97.5 General
-+	2304889 sajjan		96.75 General
-+	2304890 sajju		97 ST
-+	2304891 sajma		97.5 General
-+	2304892 sajmeen		97.5 EWS
-+	2304893 sajni		97 SC
-+	2304894 sajruddin		98.25 SC
-+	2304895 saka		97.75 ST
-+	2304896 sakal		97.5 SC
-+	2304897 sakcham		98.25 ST
-+	2305090 sarju		98.25 General
-+	2305113 sarvjeet		95.25 SC

-+	2306323	vimla		97.75 SC
-+	2306477	zeshan		96 EWS
-+	2300004	aadesh		76.25 SC
-+	2300007	aaditya		76.25 SC
-+	2300036	aanik		82.25 SC
-+	2300090	abhaki		83 SC
-+	2300174	ajay		75.75 SC
-+	2300209	akhtari		83.75 SC
-+	2300229	albaksha		75.25 SC
-+	2300248	allauddin		88 SC
-+	2300324	amzad		88 SC
-+	2300399	anshika		78 SC
-+	2300485	asanti		76.75 SC
-+	2300486	asarfi		78.25 SC
-+	2300488	asfaq		76.75 SC

-+	2300511	asho		80	SC
+-----+			+-----+		
-+	2300518	ashsish		75.75	SC
+-----+			+-----+		
-+	2300545	ateek		82.5	SC
+-----+			+-----+		
-+	2300548	atish		80.75	SC
+-----+			+-----+		
-+	2300577	ayub		90.75	SC
+-----+			+-----+		
-+	2300624	badrealam		82.25	SC
+-----+			+-----+		
-+	2300725	beauty		87	SC
+-----+			+-----+		
-+	2300016	aajiv		77	EWS
+-----+			+-----+		
-+	2300027	aamina		70	EWS
+-----+			+-----+		
-+	2300035	aanchal		71	EWS
+-----+			+-----+		
-+	2300091	abhash		85.5	EWS
+-----+			+-----+		
-+	2300135	adityalok		73.25	EWS
+-----+			+-----+		
-+	2300155	afzal		78.5	EWS
+-----+			+-----+		
-+	2300169	ajab		80.75	EWS
+-----+			+-----+		
-+	2300171	ajahar		78	EWS
+-----+			+-----+		
-+					

	2300184		ajman		75.75		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300185		ajmer		76.25		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300232		alema		85.75		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300237		alima		77.75		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300254		altaf		85.5		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300299		amlesh		80.75		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300334		anantram		78		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300376		ankeet		71.25		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300395		anoura		71		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300468		arshad		74.5		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300469		arshi		78		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300491		asha		85		EWS
+-----+		+-----+		+-----+		+-----+	
-+	2300008		aaenab		65.25		ST
+-----+		+-----+		+-----+		+-----+	
-+	2300040		aanya		83.5		ST
+-----+		+-----+		+-----+		+-----+	
-+	2300050		aarushi		86.25		ST
+-----+		+-----+		+-----+		+-----+	
-+	2300056		aashia		88		ST

-+			
	2300062 aashma		78.25 ST
-+			
	2300070 aasto		68.25 ST
-+			
	2300075 aatir		75.25 ST
-+			
	2300079 aaysha		68.75 ST
-+			
	2300082 aazadi		79 ST
-+			
	2300095 abhijeet		69.75 ST
-+			